



Cypress Semiconductor Corporation, 198 Champion Court, San Jose, CA 95134. Tel: (408) 943-2600

PRODUCT CHANGE NOTIFICATION

PCN: PCN194306

Date: October 28, 2019

Subject: Qualification of PTI-SG as an Additional Bumping, Backend and Finish Site for Select 40nm Plated Bump WLCSP Products

Change Type: Major

Description of Change:

Cypress announces the qualification of Powertech Technology Inc. Singapore (PTI-SG – 12 Ang Mo Kio Street 65, Singapore 569060) as an additional bumping, backend and finish site for 40nm select plated bump WLCSP products. This is part of the ongoing flexible manufacturing initiative announced by Cypress.

PTI-SG is the only 300mm wafer bumping facility in Singapore. This qualification will allow Cypress to leverage PTI-SG's manufacturing expertise and quality focus. PTI-SG is certified on several international quality standards: ISO 9001, ISO14001 and OHSAS18001.

The plated bump WLCSP products are bumped at PTI-SG using the following Bill of Materials:

Material	PTI-SG Bill of Materials	TSMC/ASE-KH Bill of Materials
Polyimide	HD-4104E	HD-4104E
UBM Seed Layer	Titanium (Ti)	Titanium (Ti)
UBM Seed Layer	Copper (Cu)	Copper (Cu)
UBM	Nickel (Ni)	Nickel (Ni)
Solder Bump	Tin-Silver1.8%	Tin-Silver1.8%

Cypress also announces the qualification of an alternate source for carrier tape and cover tape for 80-Ball WLCSP (2.165x2.184x0.42mm), 286-Ball WLCSP (4.87x5.413x0.41mm) and 293-Ball WLCSP (5.88x4.40x0.41mm).

- No changes in carrier tape dimensions and materials for all the affected packages
- Cover tape type changed from pressure seal to heat seal.

The alternate source carrier tape and cover tape have the following details:

Items	80 Ball WLCSP		286 Ball WLCSP		293 Ball WLCSP	
	2.165x2.184x0.42mm		4.87x5.413x0.41mm		5.88x4.40x0.41mm	
	Existing Carrier Tape	Alternative Carrier Tape	Existing Carrier Tape	Alternative Carrier Tape	Existing Carrier Tape	Alternative Carrier Tape
Carrier Tape Supplier	3M	Advantek	3M	Advantek	3M	Advantek
Carrier Tape Material Type	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Carrier Tape Unit Orientation	Quadrant 1	Quadrant 1	Quadrant 1	Quadrant 1	Quadrant 2	Quadrant 2
W: Tape Width (mm)	12.00+0.30/-0.10	12.00+0.30/-0.10	12.00+0.30/-0.10	12.00+0.30/-0.10	12.00+0.30/-0.10	12.00+0.30/-0.10
P1: Pocket Pitch (mm)	4.00 ± 0.10	4.00 ± 0.10	8.00 ± 0.10	8.00 ± 0.10	8.00 ± 0.10	8.00 ± 0.10
Ao: Pocket Length (mm)	2.34 ± 0.05	2.34 ± 0.05	5.01 ± 0.05	5.01 ± 0.05	4.54 ± 0.05	4.54 ± 0.05
Bo: Pocket Width (mm)	2.36 ± 0.05	2.36 ± 0.05	5.69 ± 0.05	5.69 ± 0.05	6.02 ± 0.05	6.02 ± 0.05
Ko: Pocket Height (mm)	0.55 ± 0.05	0.55 ± 0.05	0.50 ± 0.05	0.50 ± 0.05	0.51 ± 0.05	0.51 ± 0.05
Cover Tape Supplier	3M	Advantek	3M	Advantek	3M	Advantek
Cover Tape Material Type	Polyester Film	Polyester Film	Polyester Film	Polyester Film	Polyester Film	Polyester Film
Cover Type	Pressure	Heat	Pressure	Heat	Pressure	Heat
Cover Tape Width (mm)	9.3	9.2	9.3	9.2	9.3	9.2
Cover Tape Color	Clear	Clear	Clear	Clear	Clear	Clear

Benefit of Change:

Qualification of alternate manufacturing sites is part of the ongoing flexible manufacturing initiative announced by Cypress. The goal of the flexible manufacturing initiative is to provide the means for Cypress to continue to meet delivery commitments through dynamic, changing market conditions.

Part Numbers Affected: 4

Please refer to the attached 'Affected Parts List' file for a list of all part numbers affected by this change. Note that any new parts that are introduced after the publication of this PCN will include all changes in this PCN.

Qualification Status:

These packages have been qualified through a series of tests documented in the Qualification Test Plan (QTP) reports in the table below. These qualification reports can be found as attachments to this PCN or by visiting www.cypress.com and typing the QTP number in the keyword search window.

QTP Report Number	Qualification
191701	Qualification of PTI-SG as an Additional Bumping and Backend Site for 40nm Select Plated Bump WLCSP Products
191110	Advantek TNR Materials Qualification (WLCSP Packages) at PTISG Finish

Sample Status:

Qualification samples may not be built ahead of time for all part numbers affected by this change. Please review the attached 'Affected Parts List' file for a list of affected part numbers with their associated PTI-SG sample ordering part numbers. Samples are available now unless there is an indication that the sample ordering part numbers are subject to lead times. If you require qualification samples, please contact your local Cypress sales representative as soon as possible, preferably within 30 days of the date of this PCN, to place any sample orders.

Approximate Implementation Date:

Effective 90 days from the date of this notification or upon customer approval, whichever comes first, all shipments in the attached file will be backend processed and finished at PTI-SG or other approved sites. The affected part numbers will be supplied with either the current packaging materials or new packaging materials.

Anticipated Impact:

Products bumped, backend processed and finished at the new site are completely compatible with existing products from form, fit, functional, parametric and quality performance perspectives. Also, there is no anticipated impact on the use of the new cover tape and carrier tape on the affected devices.

Cypress also recommends that customers take this opportunity to review these changes against current application notes, system design considerations and customer environment conditions to assess impact (if any) to their application.

Method of Identification:

Cypress maintains traceability of product to wafer level, including wafer fabrication location, through the lot number marked on the package.

Response Required:

No response is required.

For additional information regarding this change, contact your local sales representative or contact the PCN Administrator at pcn_adm@cypress.com.

Sincerely,

Cypress PCN Administration

Item Marketing Part Number

- 1 CYW20736A1KWBGT
- 2 CYW43241XFKWBGT
- 3 CYW4339XKWBGT
- 4 CYW4390DKWBGT