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

PRODUCT CHANGE NOTIFICATION

PCN: PCN203501 **Date:** September 09, 2020

Subject: Qualification of Greatek Electronic as an Additional Assembly Site for Select 16-Lead SOIC Pb-Free Package

To: FUTURE ELECTRONICS
FUTURE ELE
pcn.system2@future.ca

Change Type: Major

Description of Change:
Cypress announces the qualification of Greatek Electronics Inc. (Greatek, No. 136, Gong-Yi Rd., Zhunan Township, Miaoli County 350, Taiwan.) as an additional assembly site for select 16-Lead SOIC Pb-Free package.

The 16- Lead SOIC Pb-Free package is assembled at Greatek using the following Bill of Materials (BOM):

Material	Greatek BOM	Amkor Philippines BOM
Lead frame	Cu LF	Cu PPF LF
Die Attach	Hitachi EN-4900GC	Henkel 8290
Bond Wire	0.8 mil Au wire	0.8 mil and 1.0 mil Au wire 0.8 mil Cu wire
Mold Compound	Sumitomo EME-G700H	Sumitomo EME-G600
Leadfinish	Pure Sn	NiPdAu

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: 21
See 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 outlined in this PCN.

Qualification Status:
This assembly site has been qualified through a series of tests documented in the Qualification Test Plan QTP#202304. This qualification report can be found as an attachment to this PCN or by visiting www.cypress.com and typing the QTP number in the keyword search window.

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 Greatek 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 of Commercial, Industrial and Automotive non-PPAP part numbers in the attached file will be assembled at Greatek or other approved assembly sites.

Anticipated Impact:
Products assembled at the new site are completely compatible with existing products from form, fit, functional, parametric and quality performance perspectives.

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

Material Composition Declaration

This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

Adobe Reader version 7.0.5 is required to complete this declaration.

1752-2 1.1	IPC Web Site for Information on IPC-1752 Standard http://www.ipc.org/IPC-175x	**Form Type *** Distribute	**Declaration Class *** Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Informat

Supplier Information

Company Name *	Company Unique ID	Unique ID Authority	**Response Date ***	Response Document ID	
Cypress Semiconductor Corp	CYPRESS		**2020-08-11**		
Contact Name *	Title - Contact	**Phone - Contact ***	**Email - Contact ***	Duplicate Contact -> Authorized Representative	
QA Customer Support	QA Customer Support	**6328497500**	**qacs_team@cypress.com**		
Authorized Representative *	Title - Representative	**Phone - Representative ***	**Email - Representative** *	Supplier Comments or URL for Additional Information	
Jeff Gary Ballesca	EH&S Engineer	**6328497500**	**jgtb@cypress.com**		

Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	**Weight ***	UOM	Unit Type
SOIC16 (300 MIL) (SZ16)	SOIC16 (300 MIL) (SZ16)	SOIC16 (300 MIL) (SZ16)	2020-08-11		Greatek	402.5346	mg	Each
Alternate Recommendation				Alternate Item Comments	Package QTP No. 202304			

Manufacturing Process Information

Terminal Plating / Grid Array Material	Terminal Base Alloy	J-STD-020 MSL Rating	Peak Process Body Temperature	Max Time at Peak Temperature	Number of Reflow Cycles
Matte Tin (Sn)	**CU Alloy**	**3**	**260** C	**30** seconds	**3**

Comments

Direct Material Analysis Test Report: Bonding wire (001-79685), Die attach (001-79591), Mold compound (002-28936), Lead finish (002-26469), Lead frame (001-80035)

*** Required Field**

Form enabled by Adobe

Save the fields in this form to a file	Export Data	Import fields from a file into this form	Import Data	Clear all of the fields on this form	Reset Form	Lock the fields on this form to prevent changes	Lock Supplier Fields

RoHS Material Composition Declaration

Declaration Type * **Detailed**

RoHS Directive 2002/95/EC	**RoHS Definition:** Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium

Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2002/95/EC and implemented by the laws of the European Union member states) of the part identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a "RoHS restricted substance") in excess of the applicable quantity limit identified above. If a homogeneous material within the part contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components. Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part, and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part,the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Supplier's Standard Terms and Conditions of Sale applicable to such part shall apply.

RoHS Declaration *	1 - Item(s) does not contain RoHS restricted substances per the definition above	**Supplier Acceptance ***	**Accepted**

Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.

Declaration Signature

Instructions: Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.

Supplier Digital Signature		

*** Required Field**

Homogeneous Material Composition Declaration for Electronic Products

SubItem Instructions: The presence of any JIG Level A or B substances must be declared. [1] indicate the subpart in which the substance is located, [2] provide a description of the homogeneous material [3], enter the weight of the homogeneous material.

Substance Instructions: [A] select the Level (JIG A, JIG B, Requester or Supplier) [B] select the substance category (JIG or Requester) or enter a value (Supplier). [C] select the substance (JIG) or enter the substance and CAS (Other). [D] select a RoHS exemption, if applicable [E] enter the weight of the substance or the PPM concentration [F] Optionally enter the positive (+) and negative (-) tolerance in percent (Note: percent tolerance values are expected to cover a 3 sigma range of distribution unless otherwise noted).

Line Functions: +I Inserts a New Item /SubItem +M Inserts a new Material +C Inserts a new Substance Category +S Inserts a new Substance - Deletes the element line

	Item/SubItem Name		Homogeneous Material	Weight	Unit of Measure		Level	Substance Category		Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance -	Tolerance +	PPM
+I -I	Base Material	+M -M	Lead frame	140.48	mg	+C -C	Supplier	Copper Alloy	+S -S	Copper	7440-50-8		131.9	mg			327,69
						+S -S	Iron	7439-89-6		3.23	mg						8,025
						+S -S	Phosphorus	7723-14-0		0.14	mg						348
						+S -S	Zinc	7440-66-6		0.28	mg						696
						+S -S	Silver	7440-22-4		4.93	mg						12,248
+I -I	Adhesive	+M -M	Die Attach	0.35	mg	+C -C	Supplier	Silver Epoxy	+S -S	Acrylic resin	Trade Secr		0.028	mg			7
						+S -S	Polybutadiene derivati	Trade Secr		0.021	mg						52
						+S -S	Butadiene copolymer	Trade Secr		0.003	mg						7
						+S -S	Acrylate	Trade Secr		0.021	mg						52
						+S -S	Epoxy resin	Trade Secr		0.011	mg						27
						+S -S	Peroxide	Trade Secr		0.0017	mg						4
						+S -S	Additive	Trade Secr		0.003	mg						7
						+S -S	Silver	7440-22-4		0.2613	mg						649
+I -I	Interconnect	+M -M	Wire	0.44	mg	+C -C	Supplier	Gold	+S -S	Gold	7440-57-5		0.44	mg			1,093
+I -I	Encapsulation	+M -M	Mold Compound	217.986	mg	+C -C	Supplier	Silica	+S -S	Epoxy resin	Trade Secr		13.08	mg			32,496
						+S -S	Phenol resin	Trade Secr		6.54	mg						16,248
						+S -S	Silica(Amorphous)A	60676-86-0		174.39	mg						433,25
						+S -S	Silica(Amorphous)B	7631-86-9		21.8	mg						54,160
						+S -S	Carbon black	1333-86-4		2.176	mg						5,406
+I -I	External Plating	+M -M	Leadfinish	13.1686	mg	+C -C	Supplier	Tin	+S -S	Tin	7440-31-5		13.1686	mg			32,716
+I -I	Circuit	+M -M	Die	30.11	mg	+C -C	Supplier	Silicon	+S -S	Silicon	7440-21-3		30.11	mg			74,806

*** Required Field**