

**PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)**

<b>Cypress Package Code</b>	BB	<b>Body Size (mil/mm)</b>	13 x 15
<b>Package Weight – Site 1</b>	490.0100 mg	<b>Package Weight – Site 2</b>	476.1300 mg
<b>Package Weight – Site 3</b>	474.1600 mg	<b>Package Weight – Site 4</b>	B1: 568.7100 mg B2: 539.2500 mg B3: 459.6873 mg B4: 459.6791 mg
<b>Package Weight – Site 5</b>	B1: 525.0100 mg B2: 516.8767 mg	<b>Package Weight – Site 6</b>	N/A

**SUMMARY**

The 165-FBGA is a Non Pb-Free package. Standard components (Non Pb-Free) currently in production are RoHS 5 compliant. Standard components may contain Pb, but do not contain the other 5 substances (above allowable levels).

**ASSEMBLY Site 1 – Package Qualification Report # 055103 (Note 1)**

**I. DECLARATION OF PACKAGED UNITS**

**A. BANNED SUBSTANCES**

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS are listed in section 1A. Materials from this list may be contained or intentionally added to this product, as it is not considered Pb-Free or RoHS compliant.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	As per MSDS
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	33.58	68,529	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	
Azo colorants	0	0	
Ozone Depleting Substances	0	0	
Polychlorinated Biphenyls (PCBs)	0	0	
Polychlorinated Napthalenes	0	0	
Radioactive Substances	0	0	
Shortchain Chlorinated Paraffins	0	0	
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	
Tributyl Tin Oxide (TBTO)	0	0	
Formaldehyde	0	0	

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B. MATERIAL COMPOSITION (Note 3)**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	19.6300	10.9997%	40,060	4.0060%
		Acrylic	Proprietary, 29690-82-2	17.8500	10.0022%	36,428	3.6428%
		Epoxy	68541-56-0, 25068-38-6	14.2700	7.9962%	29,122	2.9122%
		Bisphenol	13676-54-5	26.7700	15.0006%	54,632	5.4632%
		Triazol	25722-66-1	31.2300	17.4997%	63,733	6.3733%
		Cu	7440-50-8	64.9500	36.3947%	132,548	13.2548%
		Ni	7440-02-0	2.6800	1.5017%	5,469	0.5469%
		Au	7440-57-5	0.9800	0.5491%	2,000	0.2000%
		Br	Proprietary	0.1000	0.0560%	204	0.0204%
Solder Ball	External Plating	Sn	7440-31-5	57.1700	62.9972%	116,671	11.6671%
		Pb	7439-92-1	33.5800	37.0028%	68,529	6.8529%
Die Attach	Adhesive	Fused silica	60676-86-0	41.8100	53.9972%	85,325	8.5325%
		Diester	Proprietary	21.2900	27.4958%	43,448	4.3448%
		Epoxy Resin	Proprietary	4.2600	5.5017%	8,694	0.8694%
		Functionalized esters	Proprietary	7.7400	9.9961%	15,796	1.5796%
		Polymeric resin	Proprietary	2.3300	3.0092%	4,755	0.4755%
Die	Circuit	Si	7440-21-3	54.2000	100.0000%	110,610	11.0610%
Wire	Interconnect	Au	7440-57-5	5.1100	100.0000%	10,428	1.0428%
Mold Compound	Encapsulation	Silica (fused)	60676-86-0	68.6900	81.7154%	140,181	14.0181%
		Epoxy resin	Proprietary	4.9800	5.9243%	10,163	1.0163%
		Phenolic resin	Proprietary	3.9600	4.7109%	8,081	0.8081%
		Silica	7631-86-9	0.6400	0.7614%	1,306	0.1306%
		Mixed siloxanes	Proprietary	0.4300	0.5115%	878	0.0878%
		Non Brominated flame retardant	Proprietary	5.1500	6.1266%	10,510	1.0510%
		Carbon black pigment	1333-86-4	0.2100	0.2498%	429	0.0429%
Package Weight (mg):				490.0100	% Total:		100.0000%

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

## **II. DECLARATION OF PACKAGING INDIRECT MATERIALS**

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	Advantek						
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-CART-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-TRAY-G CoA-TRAY-R
Others	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-MBAG-G
	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-SBAG-G
	Desiccant	< 1000 PPM	< 100 PPM	2.5	< 1000 PPM	< 1000 PPM	< 1000 PPM	CoA-DESS-G

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**ASSEMBLY Site 2 – Package Qualification Report # 072004 (Note 1)**

**I. DECLARATION OF PACKAGED UNITS**

**A. BANNED SUBSTANCES**

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS are listed in section 1A. Materials from this list may be contained or intentionally added to this product, as it is not considered Pb-Free or RoHS compliant.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	As per MSDS
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	29.6400	62,252	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	
Azo colorants	0	0	
Ozone Depleting Substances	0	0	
Polychlorinated Biphenyls (PCBs)	0	0	
Polychlorinated Napthalenes	0	0	
Radioactive Substances	0	0	
Shortchain Chlorinated Paraffins	0	0	
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	
Tributyl Tin Oxide (TBTO)	0	0	
Formaldehyde	0	0	

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B. MATERIAL COMPOSITION (Note 3)**

Material	Purpose of Use	Substance Composition		CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	Plating 1	Au, metal & alloy	7440-57-5	1.0700	0.7368%	2,247	0.2247%
			Ni, metal & alloy	7440-02-0	4.9400	3.4017%	10,375	1.0375%
		Plating 2	Cu, metal & alloy	7440-50-8	37.1000	25.5474%	77,920	7.7920%
		AUS308	Acrylic Resin	-----	1.1100	0.7644%	2,331	0.2331%
			Phthalcyanine Blue, Organic Pigment	-----	0.0100	0.0069%	21	0.0021%
			Fillers (Barium Sulfate, Silica, Talc)	-----	0.8600	0.5922%	1,806	0.1806%
			Aromatic Carbonyl Compound	-----	0.1100	0.0757%	231	0.0231%
			Amine Compound	-----	0.1800	0.1239%	378	0.0378%
			Levelling Agents & Others	-----	0.0400	0.0275%	84	0.0084%
			Acrylic Monomer	-----	0.1400	0.0964%	294	0.0294%
			Epoxy Resin	29690-82-2 68541-56-0 25068-38-6	0.4900	0.3374%	1,029	0.1029%
			Barium Sulfate	-----	0.2200	0.1515%	462	0.0462%
			Organic Fillers	-----	0.0500	0.0344%	105	0.0105%
			HL832 NX	BT Resin	13676-54-5 25722-66-1	43.5700	30.0028%	91,509
		Fibrous-glass-wool		65997-17-3	55.3300	38.1008%	116,208	11.6208%
Solder Ball	External Plating	Sn	7440-31-5	50.4600	62.9963%	105,979	10.5979%	
		Pb	7439-92-1	29.6400	37.0037%	62,252	6.2252%	
Die Attach	Adhesive	Ag	7440-22-4	5.0300	69.9583%	10,564	1.0564%	
		Epoxy Resin	Trade Secret	0.3600	5.0070%	756	0.0756%	
		Diester	Trade Secret	0.7200	10.0139%	1,512	0.1512%	
		Polymeric Resin	Trade Secret	0.3600	5.0070%	756	0.0756%	
		Functionalized Ester	Trade Secret	0.7200	10.0139%	1,512	0.1512%	
Die	Circuit	Si	7440-21-3	25.4000	100.0000%	53,347	5.3347%	
Wire	Interconnect	Au	7440-57-5	18.1800	100.0000%	38,183	3.8183%	
Mold Compound	Encapsulation	Fused Silica	60676-86-0	190.0400	95.0010%	399,135	39.9135%	
		Epoxy Resin	Trade Secret	4.0000	1.9996%	8,401	0.8401%	
		Phenol Resin	Trade Secret	1.0000	0.4999%	2,100	0.2100%	
		Phenol Novolac	9003-35-4	2.0000	0.9998%	4,201	0.4201%	
		Metal Hydroxide	Trade Secret	2.0000	0.9998%	4,201	0.4201%	
		Carbon Black	1333-86-4	1.0000	0.4999%	2,100	0.2100%	
Package Weight (mg):					476.1300	% Total:		100.0000%

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

## **II. DECLARATION OF PACKAGING INDIRECT MATERIALS**

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	Advantek						
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-CART-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-TRAY-G CoA-TRAY-R
Others	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-MBAG-G
	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-SBAG-G
	Desiccant	< 1000 PPM	< 100 PPM	2.5	< 1000 PPM	< 1000 PPM	< 1000 PPM	CoA-DESS-G

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**ASSEMBLY Site 3 – Package Qualification Report # 073703 (Note 1)**

**I. DECLARATION OF PACKAGED UNITS**

**A. BANNED SUBSTANCES**

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS are listed in section 1A. Materials from this list may be contained or intentionally added to this product, as it is not considered Pb-Free or RoHS compliant.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	As per MSDS
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	29.6400	62,511	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	
Azo colorants	0	0	
Ozone Depleting Substances	0	0	
Polychlorinated Biphenyls (PCBs)	0	0	
Polychlorinated Napthalenes	0	0	
Radioactive Substances	0	0	
Shortchain Chlorinated Paraffins	0	0	
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	
Tributyl Tin Oxide (TBTO)	0	0	
Formaldehyde	0	0	

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.



**B. MATERIAL COMPOSITION (Note 3)**

Material	Purpose of Use	Substance Composition		CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	Plating 1	Au, metal & alloy	7440-57-5	1.0700	0.7368%	2,257	0.2257%
			Ni, metal & alloy	7440-02-0	4.9400	3.4017%	10,418	1.0418%
		Plating 2	Cu, metal & alloy	7440-50-8	37.1000	25.5474%	78,244	7.8244%
		AUS308	Acrylic Resin	-----	1.1100	0.7644%	2,341	0.2341%
			Phthalcyanine Blue, Organic Pigment	-----	0.0100	0.0069%	21	0.0021%
			Fillers (Barium Sulfate, Silica, Talc)	-----	0.8600	0.5922%	1,814	0.1814%
			Aromatic Carbonyl Compound	-----	0.1100	0.0757%	232	0.0232%
			Amine Compound	-----	0.1800	0.1239%	380	0.0380%
			Levelling Agents & Others	-----	0.0400	0.0275%	84	0.0084%
			Acrylic Monomer	-----	0.1400	0.0964%	295	0.0295%
			Epoxy Resin	29690-82-2 68541-56-0 25068-38-6	0.4900	0.3374%	1,033	0.1033%
			Barium Sulfate	-----	0.2200	0.1515%	464	0.0464%
			Organic Fillers	-----	0.0500	0.0344%	105	0.0105%
		HL832 NX	BT Resin	13676-54-5 25722-66-1	43.5700	30.0028%	91,889	9.1889%
			Fibrous-glass-wool	65997-17-3	55.3300	38.1008%	116,691	11.6691%
Solder Ball	External Plating	Sn		7440-31-5	50.4600	62.9963%	106,420	10.6420%
		Pb		7439-92-1	29.6400	37.0037%	62,511	6.2511%
Die Attach	Adhesive	Bismaleimide		Trade Secret	4.3500	59.9174%	9,174	0.9174%
		Silicon Resin		Trade Secret	1.8100	24.9311%	3,817	0.3817%
		Epoxy Resin		9003-36-5	0.7300	10.0551%	1,540	0.1540%
		Diluent		Trade Secret	0.2900	3.9945%	612	0.0612%
		Carbon Black		1333-86-4	0.0400	0.5510%	84	0.0084%
		Dicyandiamide		461-58-5	0.0400	0.5510%	84	0.0084%
Die	Circuit	Si		7440-21-3	25.4000	100.0000%	53,568	5.3568%
Wire	Interconnect	Au		7440-57-5	18.1800	99.9999%	38,341	3.8341%
Mold Compound	Encapsulation	Fused Silica		60676-86-0	118.8000	60.0000%	250,548	25.0548%
		Solid Epoxy Resin		-----	19.8000	10.0000%	41,758	4.1758%
		Phenol Resin		-----	19.8000	10.0000%	41,758	4.1758%
		Carbon Black		1333-86-4	1.9800	1.0000%	4,176	0.4176%
		Crystallin eSilica		14808-60-7	9.9000	5.0000%	20,879	2.0879%
		Metal Hydro Oxide		-----	27.7200	14.0000%	58,461	5.8461%
Package Weight (mg):					474.1600	% Total:		100.0000%

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.



## **II. DECLARATION OF PACKAGING INDIRECT MATERIALS**

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	Advantek						
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-CART-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-TRAY-G CoA-TRAY-R
Others	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-MBAG-G
	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-SBAG-G
	Desiccant	< 1000 PPM	< 100 PPM	2.5	< 1000 PPM	< 1000 PPM	< 1000 PPM	CoA-DESS-G

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**ASSEMBLY Site 4 – Package Qualification Report #s 052208, 113007, 120107, 120612**  
(Note 1)

**I. DECLARATION OF PACKAGED UNITS**

**A. BANNED SUBSTANCES**

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS are listed in section 1A. Materials from this list may be contained or intentionally added to this product, as it is not considered Pb-Free or RoHS compliant.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	As per MSDS
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	29.3300	51,573	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	
Azo colorants	0	0	
Ozone Depleting Substances	0	0	
Polychlorinated Biphenyls (PCBs)	0	0	
Polychlorinated Napthalenes	0	0	
Radioactive Substances	0	0	
Shortchain Chlorinated Paraffins	0	0	
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	
Tributyl Tin Oxide (TBTO)	0	0	
Formaldehyde	0	0	

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B1. MATERIAL COMPOSITION (Note 3)**  
**Adhesive Using Epoxy**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	SiO2	60676-86-0	16.9100	10.4901%	29,734	2.9734%
		Acrylic	Trade Secret	14.8300	9.1998%	26,077	2.6077%
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	9.9000	6.1414%	17,408	1.7408%
		Bisphenol	13676-54-5	24.1500	14.9814%	42,465	4.2465%
		Triazol	25722-66-1	28.9800	17.9777%	50,957	5.0957%
		Copper (Cu)	7440-50-8	63.4000	39.3300%	111,480	11.1480%
		Nickel (Ni)	7440-02-0	2.2400	1.3896%	3,939	0.3939%
	Gold (Au)	7440-57-5	0.7900	0.4901%	1,389	0.1389%	
Solder Ball	External Plating	Tin (Sn)	7440-31-5	49.9300	62.9952%	87,795	8.7795%
		Lead (Pb)	7439-92-1	29.3300	37.0048%	51,573	5.1573%
Die Attach	Adhesive	Silver	7440-22-4	32.9700	76.9967%	57,973	5.7973%
		Epoxy Resin	Trade Secret	2.2500	5.2546%	3,956	0.3956%
		Functionalized Ester	Trade Secret	2.2500	5.2546%	3,956	0.3956%
		Diester	Trade Secret	5.3500	12.4942%	9,407	0.9407%
Die	Circuit	Silicon	7440-21-3	25.2500	100.0000%	44,399	4.4399%
Wire	Interconnect	Gold (Au)	7440-57-5	3.5600	100.0000%	6,260	0.6260%
Mold Compound	Encapsulation	Silica fused	60676-86-0	228.3900	88.9993%	401,593	40.1593%
		Epoxy Resin 1	93705-66-9	11.5500	4.5008%	20,309	2.0309%
		Epoxy Resin 2	Undisclosed	5.1300	1.9991%	9,020	0.9020%
		Phenol resin	106466-55-1	11.5500	4.5008%	20,309	2.0309%
Package Weight (mg):				568.7100	% Total:		100.0000%

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B2. MATERIAL COMPOSITION (Note 3)**  
**Adhesive using film**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	16.9088	10.4900%	31356	3.1356%
		Acrylic	Trade Secret	14.8295	9.2000%	27500	2.7500%
		Epoxy	68541-56-0	9.8971	6.1400%	18353	1.8353%
		Bisphenol	13676-54-5	24.1463	14.9800%	44777	4.4777%
		Triazol	25722-66-1	28.9820	17.9800%	53745	5.3745%
		Cu	7440-50-8	63.3960	39.3300%	117563	11.7563%
		Ni	7440-02-0	2.2405	1.3900%	4155	0.4155%
		Au	7440-57-5	0.7898	0.4900%	1465	0.1465%
Solder Ball	External Plating	Sn	7440-31-5	57.2900	62.9976%	106240	10.6240%
		Pb	7439-92-1	33.6500	37.0024%	62401	6.2401%
Die Attach	Adhesive	Cresol-epichlorohydrin-formaldehyde polymer	37382-79-9	33.5580	60.0000%	62231	6.2231%
		Rubber modified epoxy	Trade Secret	16.7790	30.0000%	31115	3.1115%
		Aromatic amine	Trade Secret	2.7965	5.0000%	5186	0.5186%
		Silicon-based glycidyl ether	2530-83-8	2.2372	4.0000%	4149	0.4149%
		Isopropylidenedi phenol	80-05-7	0.5593	1.0000%	1037	0.1037%
Die	Circuit	Si	7440-21-3	32.9900	100.0000%	61178	6.1178%
Wire	Interconnect	Au	7440-57-5	3.8996	99.9900%	7232	0.7232%
		Ion Impurities	Trade Secret	0.0004	0.0100%	1	0.0001%
Mold Compound	Encapsulation	Silica fused	60676-86-0	172.9270	89.0000%	320681	32.0681%
		Epoxy Resin(1)	93705-66-9	8.7435	4.5000%	16214	1.6214%
		Epoxy Resin(2)	Undisclosed	3.8860	2.0000%	7206	0.7206%
		Phenol resin	106466-55-1	8.7435	4.5000%	16214	1.6214%
Package Weight (mg):				539.2500	% Total:		100

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B3. MATERIAL COMPOSITION (Note 3)**

Using Copper Wire

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	16.9088	10.4900%	36783	3.6783%
		Acrylic	Trade Secret	14.8295	9.2000%	32260	3.2260%
		Epoxy	68541-56-0	9.8971	6.1400%	21530	2.1530%
		Bisphenol	13676-54-5	24.1463	14.9800%	52528	5.2528%
		Triazol	25722-66-1	28.9820	17.9800%	63047	6.3047%
		Cu	7440-50-8	63.3960	39.3300%	137911	13.7911%
		Ni	7440-02-0	2.2405	1.3900%	4874	0.4874%
		Au	7440-57-5	0.7898	0.4900%	1718	0.1718%
Solder Ball	External Plating	Sn	7440-31-5	57.2900	62.9976%	124628	12.4628%
		Pb	7439-92-1	33.6500	37.0024%	73202	7.3202%
Die Attach (FILM)	Adhesive	Modified Epoxy resin	Trade Secret	34.4229	61.5463%	74883	7.4883%
		Epoxy resin	Trade Secret	13.6975	24.4905%	29797	2.9797%
		Dapsone	80-08-0	4.3418	7.7629%	9445	0.9445%
		Treated fume silica	67762-90-7	1.1705	2.0928%	2546	0.2546%
		Substituted silane	Trade Secret	0.8476	1.5155%	1844	0.1844%
		Elastomeric polymer	Trade Secret	0.7420	1.3267%	1614	0.1614%
		Epoxy resin	Trade Secret	0.7077	1.2653%	1540	0.1540%
Die	Circuit	Si	7440-21-3	32.9900	100.0000%	71766	7.1766%
Wire	Interconnect	Copper (Cu)	7440-50-8	2.0080	99.9900%	4368	0.4368%
		Ion Impurities	Trade Secret	0.0002	0.0100%	1	0.0001%
Mold Compound	Encapsulation	Silica	60676-86-0	104.6163	89.0000%	227582	22.7582%
		Epoxy Resin	Undisclosed	6.4146	4.5000%	13955	1.3955%
		Phenol resin	Undisclosed	5.2483	2.0000%	11417	1.1417%
		Carbon Black	1333-86-4	0.3499	4.5000%	761	0.0761%
Package Weight (mg):				459.6873	% Total:		100.0000

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B4. MATERIAL COMPOSITION (Note 3)**

Using Copper-Pd Wire

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	16.9088	10.4900%	36784	3.6784%
		Acrylic	Trade Secret	14.8295	9.2000%	32261	3.2261%
		Epoxy	68541-56-0	9.8971	6.1400%	21530	2.1530%
		Bisphenol	13676-54-5	24.1463	14.9800%	52529	5.2529%
		Triazol	25722-66-1	28.9820	17.9800%	63048	6.3048%
		Cu	7440-50-8	63.3960	39.3300%	137914	13.7914%
		Ni	7440-02-0	2.2405	1.3900%	4874	0.4874%
		Au	7440-57-5	0.7898	0.4900%	1718	0.1718%
Solder Ball	External Plating	Sn	7440-31-5	57.2900	62.9976%	124630	12.4630%
		Pb	7439-92-1	33.6500	37.0024%	73203	7.3203%
Die Attach	Adhesive	Modified Epoxy resin	Trade Secret	34.4229	61.5463%	74885	7.4885%
		Epoxy resin	Trade Secret	13.6975	24.4905%	29798	2.9798%
		Dapsone	80-08-0	4.3418	7.7629%	9445	0.9445%
		Treated fume silica	67762-90-7	1.1705	2.0928%	2546	0.2546%
		Substituted silane	Trade Secret	0.8476	1.5155%	1844	0.1844%
		Elastomeric polymer	Trade Secret	0.7420	1.3267%	1614	0.1614%
		Epoxy resin	Trade Secret	0.7077	1.2653%	1540	0.1540%
Die	Circuit	Si	7440-21-3	32.9900	100.0000%	71767	7.1767%
Wire	Interconnect	Copper (Cu)	7440-50-8	1.9500	97.5000%	4242	0.4242%
		Palladium (Pd)	7440-05-3	0.0500	2.5000%	109	0.0109%
Mold Compound	Encapsulation	Silica	60676-86-0	104.6163	89.0000%	227586	22.7586%
		Epoxy Resin	Undisclosed	6.4146	4.5000%	13955	1.3955%
		Phenol resin	Undisclosed	5.2483	2.0000%	11417	1.1417%
		Carbon Black	1333-86-4	0.3499	4.5000%	761	0.0761%
Package Weight (mg):				459.6791	% Total:		100.0000

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

## **II. DECLARATION OF PACKAGING INDIRECT MATERIALS**

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	Advantek						
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-CART-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-TRAY-G CoA-TRAY-R
Others	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-MBAG-G
	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-SBAG-G
	Desiccant	< 1000 PPM	< 100 PPM	2.5	< 1000 PPM	< 1000 PPM	< 1000 PPM	CoA-DESS-G

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.



**ASSEMBLY Site 5 – Package Qualification Report #s 062504 , 120610 (Note 1)**

**I. DECLARATION OF PACKAGED UNITS**

**A. BANNED SUBSTANCES**

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS are listed in section 1A. Materials from this list may be contained or intentionally added to this product, as it is not considered Pb-Free or RoHS compliant.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	As per MSDS
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	33.2000	63,237	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	
Azo colorants	0	0	
Ozone Depleting Substances	0	0	
Polychlorinated Biphenyls (PCBs)	0	0	
Polychlorinated Napthalenes	0	0	
Radioactive Substances	0	0	
Shortchain Chlorinated Paraffins	0	0	
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	
Tributyl Tin Oxide (TBTO)	0	0	
Formaldehyde	0	0	

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B1. MATERIAL COMPOSITION (Note 3)**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	Cured Resin	Proprietary	73.4000	27.9971%	139,807	13.9807%
		Glass Fabrics	Proprietary	57.6800	22.0010%	109,865	10.9865%
		Copper Foil	Proprietary	78.6500	29.9996%	149,807	14.9807%
		Diethylene Glycol Monoethyl Ether Acetate	Proprietary	13.1100	5.0006%	24,971	2.4971%
		Acetophenone Derivative	Proprietary	13.1100	5.0006%	24,971	2.4971%
		Silica Crystalline	Proprietary	13.1100	5.0006%	24,971	2.4971%
		Solvent naptha	Proprietary	13.1100	5.0006%	24,971	2.4971%
Solder Ball	External Plating	Sn	7440-31-5	57.1800	62.0039%	108,912	10.8912%
		Pb	7439-92-1	33.2000	36.0009%	63,237	6.3237%
		Ag	7440-22-4	1.8400	1.9952%	3,505	0.3505%
Die Attach	Adhesive	Ag	7440-22-4	3.2400	79.8030%	6,171	0.6171%
		Bismaleimide	Proprietary	0.4100	10.0985%	781	0.0781%
		Polymer	Proprietary	0.4100	10.0985%	781	0.0781%
Die	Circuit	Silicon	7440-21-3	21.4000	100.0000%	40,761	4.0761%
Wire	Interconnect	Au	7440-57-5	15.2400	100.0000%	29,028	2.9028%
Mold Compound	Encapsulation	Silica	60676-86-0	112.3700	86.4917%	214,034	21.4034%
		Non-Brominated Flame Retardant	Proprietary	6.5000	5.0031%	12,381	1.2381%
		Epoxy Resin	Proprietary	6.5000	5.0031%	12,381	1.2381%
		Phenol Resin	Proprietary	3.2500	2.5015%	6,190	0.6190%
		Mixed Siloxanes	Proprietary	0.6500	0.5003%	1,238	0.1238%
		Carbon Black Pigment	1333-86-4	0.6500	0.5003%	1,238	0.1238%
Package Weight (mg):				525.0100	% Total:		100.0000%

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

**B2. MATERIAL COMPOSITION (Note 3)**

Using Copper-Pd Wire

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	Cured Resin	Proprietary	73.4000	27.9971%	142,007	14.2007%
		Glass Fabrics	Proprietary	57.6800	22.0010%	111,593	11.1593%
		Copper Foil	Proprietary	78.6500	29.9995%	152,164	15.2164%
		Diethylene Glycol Monoethyl Ether Acetate	Proprietary	13.1100	5.0006%	25,364	2.5364%
		Acetophenone Derirative	Proprietary	13.1100	5.0006%	25,364	2.5364%
		Silica Crystalline	Proprietary	13.1100	5.0006%	25,364	2.5364%
		Solvent naptha	Proprietary	13.1100	5.0006%	25,364	2.5364%
Solder Ball	External Plating	Sn	7440-31-5	57.1800	62.0039%	110,626	11.0626%
		Pb	7439-92-1	33.2000	36.0009%	64,232	6.4232%
		Ag	7440-22-4	1.8400	1.9952%	3,560	0.3560%
Die Attach	Adhesive	Ag	7440-22-4	3.0450	75.0000%	5,891	0.5891%
		Bismaleimide	Proprietary	0.7105	17.5000%	1,375	0.1375%
		Polymer/Synthetic Resin	Proprietary	0.2030	5.0000%	393	0.0393%
		Additive	Proprietary	0.1015	2.5000%	196	0.0196%
Die	Circuit	Silicon	7440-21-3	21.4000	100.0000%	41,403	4.1403%
Wire	Interconnect	Copper	7440-50-8	7.0357	99.0000%	13,612	1.3612%
		Palladium	7440-05-3	0.0710	1.0000%	137	0.0137%
Mold Compound	Encapsulation	Silica	60676-86-0	115.6292	89.0004%	223,707	22.3707%
		Epoxy Resin	Proprietary	9.0941	6.9997%	17,594	1.7594%
		Phenol Resin	Proprietary	3.8975	2.9999%	7,540	0.7540%
		Melamine Cyanurate	Proprietary	0.6496	0.5000%	1,257	0.1257%
		Carbon Black Pigment	Proprietary	0.6496	0.5000%	1,257	0.1257%
Package Weight (mg):				516.8767	% Total:		100.0000%

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

## **II. DECLARATION OF PACKAGING INDIRECT MATERIALS**

Type	Material	Lead PPM	Cadmium PPM	Cr VI PPM	Mercury PPM	PBB PPM	PBDE PPM	Analysis Report (Note2)
Tape & Reel	Cover tape	Advantek						
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-CART-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-TRAY-G CoA-TRAY-R
Others	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-MBAG-G
	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	CoA-SBAG-G
	Desiccant	< 1000 PPM	< 100 PPM	2.5	< 1000 PPM	< 1000 PPM	< 1000 PPM	CoA-DESS-G

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

## Document History Page

Document Title: 165 - FBGA 13X15 NON PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)  
Document Number: 001-05596

Rev.	ECN No.	Orig. of Change	Description of Change
**	405951	YXP	New specification
*A	459354	XBQ	Change Title - Remove package thickness as non significant for PMDD Added Assembly Site 2 – Package Qualification Report # 055103
*B	1090043	VFR/HLR	Changed Cypress Logo. Changed the value of Lead on Section 1 of Assembly Site 2. Completed the RoHS 6 substances (Lead, Mercury, Hexavalent Chromium, PBB and PBDE) for Declaration of Indirect Packaging Materials for Assembly Site 1 and 2. Deleted Plastic Reel, Tube, Protective Band, Shipping and Inner Pizza Box, Bubble pack on Table II - Declaration of Packaging Indirect Materials. Added % weight of substance per Homogeneous material on Assembly Site 1 and 2. Added PMDD for Site 3 – AIT, Batam, Indonesia
*C	1639867	VFR	Added new PMDD for AIT, Batam, Indonesia under Assembly site 4 – there is a change in mold compound and epoxy used. It uses low-alpha mold compound and non-conductive epoxy.
*D	2770308	MAHA Dcon	Added data for assembly site 5. Corrected the CAS number of gold for assembly sites 1 and 2. Added the CAS number of Lead for assembly sites 3 and 4. Change CML to WEB in distribution list.
*E	2779733	MAHA	Added material declaration for assembly site 6.
*F	3050768	MAHA	Added the weight of Lead on Table A of assembly sites 1, 2, 3, and 4.
*G	3198391	MAHA	Corrected the solder ball composition of Assembly site 6.
*H	3403328	EBZ	Added package weight B2 for Site 5. Added QTP #113007 for Site 5. Added “adhesive using epoxy” for Material Composition table B1 for Site-5. Added Material Composition table B2 using adhesive film for Site-5.
*I	3422912	MAHA	Deleted assembly site 1. Deleted Ion Impurities from the material composition of assembly site 1. Recalculated the % weight of substance per Homogeneous material and PPM values of assembly site 1. Recalculated the PPM values of

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered “non-existent in the product” or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

Rev.	ECN No.	Orig. of Change	Description of Change
			assembly sites 2 and 3. Expressed the weight by mg, package weight, % weight of substance per Homogeneous material, and % weight of substance per package in four decimal places for assembly sites 1, 2, 3, 4-B1, and 5.
*J	3593086	EBZ	Added package weight B3 and B4 for Site 4. Added Material Composition table B3 using copper and table B4 using copper pd wire material for Site 4. Added package weight B2 for Site 5. Added Material Composition table B2 using copper pd wire material for Site 5.
*K	3807638	HLR	Sunset Due – No Change

Distribution: WEB

Posting: None

Note 1: Qualification reports are available at [www.cypress.com](http://www.cypress.com). Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product" or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.