

**PACKAGE MATERIAL DECLARATION DATASHEET**

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<b>Cypress Package Code</b>	BZ	<b>Body Size (mil/mm)</b>	6 X 8 mm
<b>Package Weight – Site 1</b>	B1: 72.2100 mg B2: 70.9986 mg B3: 75.3900 mg	<b>Package Weight – Site 2</b>	B1: 93.0000 mg B2: 77.6800 mg B3: 76.8725 mg B4: 76.8795 mg B5: 78.9948 mg
<b>Package Weight – Site 3</b>	76.7800 mg	<b>Package Weight – Site 4</b>	B1: 78.9000 mg B2: 77.0000 mg
<b>Package Weight – Site 5</b>	70.3314 mg		

**SUMMARY**

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The 48-BGA package is qualified at five assembly sites. Packages from different assembly sites are likely to have different materials composition. However, Cypress guarantees that product ordered with a part number containing an “X” (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) meets all requirement of the EU RoHS directive.

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**ASSEMBLY Site 1: Cypress Manufacturing Limited (CML)  
Package Qualification Report # 042801, 120610, 140204, 143606 (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. Listed in the table below are materials that are neither contained nor intentionally added to this product.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BZ48-CML
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Naphthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS

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”. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information

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

Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

**B1. MATERIAL COMPOSITION (Note 3)  
Using Gold wire material**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Cured Resin	-----	7.2576	28.0000%	100,507	10.0507%
		Glass Fabrics	-----	5.7024	22.0000%	78,970	7.8970%
		Copper Foil	-----	7.7760	30.0000%	107,686	10.7686%
		Diethylene Glycol Monoethyl Ether Acetate	-----	1.2960	5.0000%	17,948	1.7948%
		Acetophenone Derivative	-----	1.2960	5.0000%	17,948	1.7948%
		Silica Crystalline	-----	1.2960	5.0000%	17,948	1.7948%
		Solvent naptha	-----	1.2960	5.0000%	17,948	1.7948%
Solder Ball	External Plating	Sn	7440-31-5	0.2561	98.5000%	3,547	0.3547%
		Ag	7440-22-4	0.0026	1.0000%	36	0.0036%
		Cu	7440-50-8	0.0013	0.5000%	18	0.0018%
Die Attach	Adhesive	Ag	7440-22-4	0.9920	80.0000%	13,738	1.3738%
		Bismaleimide	-----	0.1240	10.0000%	1,717	0.1717%
		Polymer/Synthetic Resin	-----	0.0868	7.0000%	1,202	0.1202%
		Additive	-----	0.0372	3.0000%	515	0.0515%
Die	Circuit	Si	7440-21-3	21.7100	100.0000%	300,651	30.0651%
Wire	Interconnect	Au	7440-57-5	2.2700	100.0000%	31,436	3.1436%
Mold Compound	Encapsulation	SiO <sub>2</sub>	60676-86-0	18.3128	88.0000%	253,603	25.3603%
		Epoxy Resin (1)	93705-66-9	1.2486	6.0000%	17,291	1.7291%
		Epoxy Resin (2)	-----	0.4162	2.0000%	5,764	0.5764%
		Phenol Resin	106466-55-1	0.8324	4.0000%	11,527	1.1527%

**Package Weight (mg):** **72.2100**
**% Total:** **100.0000**

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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-Palladium wire material**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Cured Resin	-----	7.2576	28.0000%	102,222	10.2222%
		Glass Fabrics	-----	5.7024	22.0000%	80,317	8.0317%
		Copper Foil	-----	7.7760	30.0000%	109,523	10.9523%
		Diethylene Glycol Monoethyl Ether Acetate	-----	1.2960	5.0000%	18,254	1.8254%
		Acetophenone Derivative	-----	1.2960	5.0000%	18,254	1.8254%
		Silica Crystalline	-----	1.2960	5.0000%	18,254	1.8254%
		Solvent naptha	-----	1.2960	5.0000%	18,254	1.8254%
Solder Ball	External Plating	Sn	7440-31-5	0.2561	98.5000%	3,607	0.3607%
		Ag	7440-22-4	0.0026	1.0000%	37	0.0037%
		Cu	7440-50-8	0.0013	0.5000%	18	0.0018%
Die Attach	Adhesive	Ag	7440-22-4	0.9920	80.0000%	13,972	1.3972%
		Bismaleimide	-----	0.1240	10.0000%	1,747	0.1747%
		Polymer/Synthetic Resin	-----	0.0868	7.0000%	1,223	0.1223%
		Additive	-----	0.0372	3.0000%	524	0.0524%
Die	Circuit	Si	7440-21-3	21.7100	100.0000%	305,781	30.5781%
Wire	Interconnect	Cu	7440-50-8	1.0479	98.9948%	14,759	1.4759%
		Pd	7440-05-3	0.0106	1.0052%	150	0.0150%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	17.9986	86.4900%	253,506	25.3506%
		Epoxy resin	-----	1.0405	5.0000%	14,655	1.4655%
		Phenolic resin	-----	0.5203	2.5000%	7,328	0.7328%
		Melamine Cyanurate	-----	1.1446	5.5000%	16,121	1.6121%
		Carbon black pigment	1333-86-4	0.1061	0.5100%	1,494	0.1494%

**Package Weight (mg): 70.9986**
**% Total: 100.0000**

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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-Palladium wire material, & with big-die**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Cured Resin	-----	7.2867	27.9593%	96,653	9.6653%
		Glass Fabrics	-----	5.8131	22.3051%	77,107	7.7107%
		Copper Foil	-----	7.7760	29.8368%	103,144	10.3144%
		Diethylene Glycol Monoethyl Ether Acetate	-----	1.2965	4.9747%	17,197	1.7197%
		Acetophenone Derivative	-----	1.2965	4.9747%	17,197	1.7197%
		Silica Crystalline	-----	1.2965	4.9747%	17,197	1.7197%
		Solvent naphtha	-----	1.2965	4.9747%	17,197	1.7197%
Solder Ball	External Plating	Sn	7440-31-5	0.2562	98.4627%	3,398	0.3398%
		Ag	7440-22-4	0.0026	0.9992%	34	0.0034%
		Cu	7440-50-8	0.0014	0.5380%	19	0.0019%
Die Attach	Adhesive	Ag	7440-22-4	0.9950	80.2419%	13,198	1.3198%
		Bismaleimide	-----	0.1355	10.9274%	1,797	0.1797%
		Polymer/Synthetic Resin	-----	0.0895	7.2177%	1,187	0.1187%
		Additive	-----	0.0415	3.3468%	550	0.0550%
Die	Circuit	Si	7440-21-3	25.9500	100.0000%	344,210	34.4210%
Wire	Interconnect	Cu	7440-50-8	1.4579	99.9589%	19,338	1.9338%
		Pd	5/3/7440	0.0006	0.0411%	8	0.0008%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	17.5875	84.5143%	233,287	23.3287%
		Epoxy resin	-----	1.0395	5.0000%	13,788	1.3788%
		Phenolic resin	-----	0.5203	2.5000%	6,901	0.6901%
		Melamine Cyanurate	-----	1.1446	5.5000%	15,182	1.5182%
		Carbon black pigment	1333-86-4	0.1061	0.5100%	1,407	0.1407%

**Package Weight (mg): 75.3900**
**% Total: 100.0000**

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Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered "non-existent in the product". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-COVT-R
	Carrier tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-TRAY-R
Others	Moisture Barrier bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-MBBG-R
	Shielding bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R
	Protective Band	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PROB-R
	Shipping and inner/ pizza box	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-DESS-R
	Bubble Pack	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-BUBP-R

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

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**ASSEMBLY Site 2: Advanced Semiconductor Engineering Taiwan (ASET)  
Package Qualification Report #033105, 063001, 120301, 120612, 042905, 131204,  
143605 (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. Listed in the table below are materials that are neither contained nor intentionally added to this product.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BZ48-ASET
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Naphthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

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

**B1. MATERIAL COMPOSITION (Note 3)  
Using Non-Halogen Free Substrate**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	2.5300	10.4805%	27,204	2.7204%
		Acrylic	-----	2.2200	9.1964%	23,871	2.3871%
		Epoxy	29690-82-2	1.4800	6.1309%	15,914	1.5914%
		Bisphenol	13676-54-5	3.6200	14.9959%	38,925	3.8925%
		Triazol	25722-66-1	4.3200	17.8956%	46,452	4.6452%
		Cu	7440-50-8	9.5000	39.3538%	102,151	10.2151%
		Ni	7440-02-0	0.3300	1.3670%	3,548	0.3548%
		Au	7440-57-5	0.1200	0.4971%	1,290	0.1290%
		Br	10097-32-2	0.0200	0.0829%	215	0.0215%
Solder Ball	External Plating	Sn	7440-31-5	4.8100	95.4365%	51,720	5.1720%
		Ag	7440-22-4	0.2000	3.9683%	2,151	0.2151%
		Cu	7440-50-8	0.0300	0.5952%	323	0.0323%
Die Attach	Adhesive	Diester	-----	3.6100	28.2031%	38,817	3.8817%
		Epoxy Resin	-----	0.7100	5.5469%	7,634	0.7634%
		Functionalized Esters	-----	1.3400	10.4688%	14,409	1.4409%
		Polymetric Resin	-----	0.4500	3.5156%	4,839	0.4839%
		Silica Fused	60676860	6.6900	52.2656%	71,935	7.1935%
Die	Circuit	Si	7440-21-3	8.0500	100.0000%	86,559	8.6559%
Wire	Interconnect	Au	7440-57-5	1.7100	100.0000%	18,387	1.8387%
Mold Compound	Encapsulation	Silica Fused	60676860	35.8600	86.9122%	385,592	38.5592%
		Epoxy Resin	-----	2.6800	6.4954%	28,817	2.8817%
		Phenolic Resin	-----	2.6800	6.4954%	28,817	2.8817%
		Phosphorus	-----	0.0400	0.0969%	430	0.0430%

**Package Weight (mg):** **93.0000**
**% Total:** **100.0000**

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



**B2. MATERIAL COMPOSITION (Note 3)  
Using Halogen Free Substrate**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	2.2600	10.4921%	29,094	10.4921%
		Acrylic	Trade Secret	1.9800	9.1922%	25,489	9.1922%
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	1.3200	6.1281%	16,993	6.1281%
		Bisphenol	13676-54-5	3.2300	14.9954%	41,581	14.9954%
		Triazol	25722-66-1	3.8700	17.9666%	49,820	17.9666%
		Copper	7440-50-8	8.4700	39.3222%	109,037	39.3222%
		Nickel	7440-02-0	0.3000	1.3928%	3,862	1.3928%
		Gold	7440-57-5	0.1100	0.5107%	1,416	0.5107%
Solder Ball	External Plating	Sn	7440-31-5	3.7400	98.4211%	48,146	98.4211%
		Ag	7440-22-4	0.0400	1.0526%	515	1.0526%
		Cu	7440-50-8	0.0200	0.5263%	257	0.5263%
Die Attach	Adhesive	Silver	7440-22-4	0.9500	77.8689%	12,230	77.8689%
		Epoxy Resin	Trade Secret	0.0600	4.9180%	772	4.9180%
		Functionalized Ester	Trade Secret	0.0600	4.9180%	772	4.9180%
		Diester	Trade Secret	0.1500	12.2951%	1,931	12.2951%
Die	Circuit	Si	7440-21-3	2.8100	100.0000%	36,174	100.0000%
Wire	Interconnect	Au	7440-57-5	1.5000	100.0000%	19,310	100.0000%
Mold Compound	Encapsulation	Epoxy Resin ( 1 )	93705-66-9	40.2700	86.0286%	518,409	86.0286%
		Epoxy Resin ( 2 )	Trade Secret	2.3700	5.0630%	30,510	5.0630%
		Phenol Resin	106466-55-1	1.4200	3.0335%	18,280	3.0335%
		Carbon black	1333-86-4	2.3700	5.0630%	30,510	5.0630%
		Silica	60676-86-0	0.1900	0.4059%	2,446	0.4059%
		Others	Trade Secret	0.1900	0.4059%	2,446	0.4059%

**Package Weight (mg): 77.6800**
**% Total: 100.0000**

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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 with Halogen-Free substrate**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	2.2600	10.4921%	29,397	2.9397%
		Acrylic	-----	1.9800	9.1921%	25,755	2.5755%
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	1.3200	6.1281%	17,170	1.7170%
		Bisphenol	13676-54-5	3.2300	14.9954%	42,014	4.2014%
		Triazol	25722-66-1	3.8700	17.9666%	50,339	5.0339%
		Copper	7440-50-8	8.4700	39.3222%	110,172	11.0172%
		Nickel	7440-02-0	0.3000	1.3928%	3,902	0.3902%
		Gold	7440-57-5	0.1100	0.5107%	1,431	0.1431%
Solder Ball	External Plating	Sn	7440-31-5	3.7400	98.4211%	48,647	4.8647%
		Ag	7440-22-4	0.0400	1.0526%	520	0.0520%
		Cu	7440-50-8	0.0200	0.5263%	260	0.0260%
Die Attach	Adhesive	Acrylic Resin	-----	0.0299	2.4521%	389	0.0389%
		Silica, Amorphous, fused	60676-86-0	0.5907	48.4168%	7,683	0.7683%
		Epoxy Resin	-----	0.0966	7.9180%	1,256	0.1256%
		Acrylate monomer	-----	0.0966	7.9180%	1,256	0.1256%
		Bismaleimide monomer	-----	0.4062	33.2951%	5,284	0.5284%
Die	Circuit	Si	7440-21-3	2.8100	100.0000%	36,551	3.6551%
Wire	Interconnect	Cu	7440-50-8	0.6925	100.0000%	9,099	0.9099%
Mold Compound	Encapsulation	Silica	60676-86-0	40.2700	86.0286%	523,807	52.3807%
		Epoxy Resin	-----	3.7743	8.0630%	49,094	4.9094%
		Phenol Resin	-----	2.5958	5.5454%	33,764	3.3764%
		Carbon black	1333-86-4	0.1699	0.3630%	2,210	0.2210%

**Package Weight (mg): 76.8725**
**% Total: 100.0000**

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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-Palladium wire with Halogen-Free substrate**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	2.2600	10.4921%	29,397	2.9397%
		Acrylic	-----	1.9800	9.1921%	25,755	2.5755%
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	1.3200	6.1281%	17,170	1.7170%
		Bisphenol	13676-54-5	3.2300	14.9954%	42,014	4.2014%
		Triazol	25722-66-1	3.8700	17.9666%	50,339	5.0339%
		Copper	7440-50-8	8.4700	39.3222%	110,172	11.0172%
		Nickel	7440-02-0	0.3000	1.3928%	3,902	0.3902%
		Gold	7440-57-5	0.1100	0.5107%	1,431	0.1431%
Solder Ball	External Plating	Sn	7440-31-5	3.7400	98.4211%	48,647	4.8647%
		Ag	7440-22-4	0.0400	1.0526%	520	0.0520%
		Cu	7440-50-8	0.0200	0.5263%	260	0.0260%
Die Attach	Adhesive	Acrylic Resin	-----	0.0299	2.4521%	389	0.0389%
		Silica, Amorphous, fused	60676-86-0	0.5907	48.4168%	7,683	0.7683%
		Epoxy Resin	-----	0.0966	7.9180%	1,256	0.1256%
		Acrylate monomer	-----	0.0966	7.9180%	1,256	0.1256%
		Bismaleimide monomer	-----	0.4062	33.2951%	5,284	0.5284%
Die	Circuit	Si	7440-21-3	2.8100	100.0000%	36,551	3.6551%
Wire	Interconnect	Cu	7440-50-8	0.6925	98.9948%	9,008	0.9008%
		Pd	7440-05-3	0.0070	1.0052%	91	0.0091%
Mold Compound	Encapsulation	Silica	60676-86-0	40.2700	86.0286%	523,807	52.3807%
		Epoxy Resin	-----	3.7743	8.0630%	49,094	4.9094%
		Phenol Resin	-----	2.5958	5.5454%	33,764	3.3764%
		Carbon black	1333-86-4	0.1699	0.3630%	2,210	0.2210%

**Package Weight (mg): 76.8795**
**% 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". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information

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

**B5. MATERIAL COMPOSITION (Note 3)**
**Using Copper-Palladium wire with Halogen-free Substrate and Conductive Die Attach Epoxy**

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	SiO2	60676-86-0	2.6307	11.0001%	33302	3.3302%
		Acrylic	Trade Secret	2.3915	9.9999%	30274	3.0274%
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	1.9132	7.9999%	24219	2.4219%
		Bisphenol	13676-54-5	3.5873	15.0001%	45412	4.5412%
		Triazol	25722-66-1	4.1852	17.5002%	52981	5.2981%
		Copper	7440-50-8	8.7171	36.4500%	110350	11.0350%
		Nickel	7440-02-0	0.3587	1.4999%	4541	0.4541%
		Gold	7440-57-5	0.1315	0.5499%	1665	0.1665%
Solder Ball	External Plating	Tin	7440-31-5	4.8920	98.4999%	61928	6.1928%
		Silver	7440-22-4	0.0497	1.0007%	629	0.0629%
		Copper	7440-50-8	0.0248	0.4993%	314	0.0314%
Die Attach	Adhesive	Silver	7440-22-4	3.7277	48.5005%	47189	4.7189%
		Epoxy Resin	Trade Secret	2.5748	33.5003%	32595	3.2595%
		Functionalized Ester	Trade Secret	0.6917	8.9996%	8756	0.8756%
		Diester	Trade Secret	0.6917	8.9996%	8756	0.8756%
Die	Circuit	Silicon	7440-21-3	1.4000	100.0000%	17723	1.7723%
Wire	Interconnect	Copper	7440-50-8	1.1609	97.3011%	14696	1.4696%
		Palladium	5/3/7440	0.0322	2.6989%	408	0.0408%
Mold Compound	Encapsulation	Silica	60676-86-0	35.7312	89.7000%	452323	45.2323%
		Epoxy Resin	Trade Secret	2.1909	5.5001%	27735	2.7735%
		Phenol Resin	Trade Secret	1.7925	4.4999%	22691	2.2691%
		Carbon black	1333-86-4	0.1195	0.3000%	1513	0.1513%

**Package Weight (mg): 78.9948**
**% 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". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-COVT-G
	Carrier tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-CART-G
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PLTL-G
Tray	Tray	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-TRAY-G
Others	Moisture Barrier bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-MBAG-G
	Shielding bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-G
	Shipping and inner/ pizza box	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-DESS-G
	Bubble Pack	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA- BUBP-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". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information

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

**ASSEMBLY Site 3: Global Advanced Packaging Technology China (GAPT)  
Package Qualification Report #060307 (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. Listed in the table below are materials that are neither contained nor intentionally added to this product.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BZ48-GAPT
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

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". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites 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 Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	SiO2	60676-86-0	2.5376	10.9900%	33,050	3.3050%
		Acrylic Esters	Trade Secret	2.4221	10.4900%	31,547	3.1547%
		Epoxy resin	68541-56-0, 25068-38-6	1.8472	8.0000%	24,058	2.4058%
		Bisphenol	13676-54-5	3.4612	14.9900%	45,079	4.5079%
		Triazol	25722-66-1	4.1539	17.9900%	54,101	5.4101%
		Cu	7440-50-8	8.3078	35.9800%	108,202	10.8202%
		Ni	7440-02-0	0.3464	1.5000%	4,511	0.4511%
		Br	Trade Secret	0.0139	0.0600%	180	0.0180%
Solder Ball	External Plating	Sn	7440-31-5	4.9649	98.5100%	64,664	6.4664%
		Ag	7440-22-4	0.0499	0.9900%	650	0.0650%
		Cu	7440-50-8	0.0252	0.5000%	328	0.0328%
Die Attach	Adhesive	Epoxy resin	Trade Secret	0.0022	7.4800%	29	0.0029%
		Fused Silica	Trade Secret	0.0129	42.9800%	168	0.0168%
		Diester	Trade Secret	0.0075	25.0500%	98	0.0098%
		Functionalized urethane	Trade Secret	0.0027	8.9700%	35	0.0035%
		Functionalized ester	Trade Secret	0.0024	8.0400%	31	0.0031%
		Polymeric resin	Trade Secret	0.0022	7.4800%	29	0.0029%
Die	Circuit	Si	7440-21-3	1.4600	100.0000%	19,015	1.9015%
Wire	Interconnect	Au	7440-57-5	1.8000	100.0000%	23,444	2.3444%
Mold Compound	Encapsulation	Epoxy resin	Trade Secret	3.4020	7.5000%	44,308	4.4308%
		Phenol resin	Trade Secret	1.9051	4.2000%	24,813	2.4813%
		Carbon black	1333-86-4	0.1361	0.3000%	1,772	0.1772%
		Fused Silica	60676-86-0	39.9168	88.0000%	519,888	51.9888%

**Package Weight (mg): 76.7800**
**% 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". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-COVT-R
	Carrier tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-TRAY-R
Others	Moisture Barrier bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-MBBG-R
	Shielding bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R
	Protective Band	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PROB-R
	Shipping and inner/ pizza box	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-DESS-R

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". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information

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



**ASSEMBLY Site 4: PT UNISEM Batam  
Package Qualification Report #065103, 071902 (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. Listed in the table below are materials that are neither contained nor intentionally added to this product.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BZ48-PT UNISEM
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Naphthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

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". In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites information

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

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

Using EME-G760V Mold Compound

Material	Purpose of Use	Substance Composition		CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Plating 1	Au, metal & alloy	7440-57-5	0.0154	0.5200%	196	0.0196%
			Ni, metal & alloy	7440-02-0	0.0713	2.4000%	903	0.0903%
		Plating 2	Cu, metal & alloy	7440-50-8	0.6207	20.9000%	7,867	0.7867%
			Other acrylic / epoxy resin	-----	0.1574	5.3000%	1,995	0.1995%
			Silica, crystalline – quartz (SiO <sub>2</sub> )	14808-60-7	0.1010	3.4000%	1,280	0.1280%
			Copper Phthalocyanine Green	1328-53-6	0.0012	0.0400%	15	0.0015%
			1-Cyanoguanidine	461-58-5	0.0030	0.1000%	38	0.0038%
			BT Resin	13676-54-5 25722-66-1	0.8800	29.6300%	11,153	1.1153%
			Fibrous-glass-wool	65997-17-3	1.1200	37.7100%	14,195	1.4195%
Solder Ball	External Plating	Sn		7440-31-5	26.8018	98.5000%	339,694	33.9694%
		Ag		7440-22-4	0.2721	1.0000%	3,449	0.3449%
		Cu		7440-50-8	0.1361	0.5000%	1,724	0.1724%
Die Attach	Adhesive	Ag		7440-22-4	1.2530	70.0000%	15,881	1.5881%
		Epoxy Resin		-----	0.0895	5.0000%	1,134	0.1134%
		Diester		-----	0.1790	10.0000%	2,269	0.2269%
		Polymeric Resin		-----	0.0895	5.0000%	1,134	0.1134%
		Functionalized Ester		-----	0.1790	10.0000%	2,269	0.2269%
Die	Circuit	Si		7440-21-3	3.0000	100.0000%	38,023	3.8023%
Wire	Interconnect	Au		7440-57-5	0.6300	100.0000%	7,985	0.7985%
Mold Compound	Encapsulation	Fused Silica		60676-86-0	41.1350	95.0000%	521,356	52.1356%
		Epoxy Resin		-----	0.8660	2.0000%	10,976	1.0976%
		Phenol Resin		-----	0.2165	0.5000%	2,744	0.2744%
		Phenol Novolac		9003-35-4	0.4330	1.0000%	5,488	0.5488%
		Metal Hydroxide		-----	0.4330	1.0000%	5,488	0.5488%
		Carbon Black		1333-86-4	0.2165	0.5000%	2,744	0.2744%

**Package Weight (mg): 78.9000**
**% 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”. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites 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 Nitto GE100LFCSV Mold Compound

Material	Purpose of Use	Substance Composition		CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Plating 1	Au, metal & alloy	7440-57-5	0.1390	0.5200%	1,806	0.1806%
			Ni, metal & alloy	7440-02-0	0.6418	2.4000%	8,335	0.8335%
		Plating 2	Cu, metal & alloy	7440-50-8	5.5887	20.9000%	72,580	7.2580%
			Other acrylic / epoxy resin	-----	1.4172	5.3000%	18,405	1.8405%
			Silica, crystalline – quartz (SiO <sub>2</sub> )	14808-60-7	0.9092	3.4000%	11,807	1.1807%
			Copper Phthalocyanine Green	1328-53-6	0.0107	0.0400%	139	0.0139%
			1-Cyanoguanidine	461-58-5	0.0267	0.1000%	347	0.0347%
			BT Resin	13676-54-5/ 25722-66-1	7.9231	29.6300%	102,897	10.2897%
			Fibrous-glass-wool	65997-17-3	10.0837	37.7100%	130,957	13.0957%
Solder Ball	External Plating	Sn		7440-31-3	5.2105	98.5000%	67,670	6.7670%
		Ag		7440-22-4	0.0529	1.0000%	687	0.0687%
		Cu		7440-50-8	0.0265	0.5000%	344	0.0344%
Epoxy	Adhesive	Bismaleimide		Trade secret	0.1920	60.0000%	2,494	0.2494%
		Silicon Resin		Trade secret	0.0800	25.0000%	1,039	0.1039%
		Epoxy Resin		9003-36-5	0.0320	10.0000%	416	0.0416%
		Diluent		Trade secret	0.0128	4.0000%	166	0.0166%
		Carbon Black		1333-86-4	0.0016	0.5000%	21	0.0021%
		Dicyandiamide		461-58-5	0.0016	0.5000%	21	0.0021%
Silicon Chip	Circuit	Si		7440-21-3	12.9000	100.0000%	167,532	16.7532%
Bond Wire, Gold Wire	Interconnect	Au		7440-57-5	1.7500	100.0000%	22,727	2.2727%
Mold Compound	Encapsulation	Fused Silica		60676-86-0	18.0000	60.0000%	233,766	23.3766%
		Solid Epoxy Resin		-----	3.0000	10.0000%	38,961	3.8961%
		Phenol Resin		-----	3.0000	10.0000%	38,961	3.8961%
		Carbon Black		1333-86-4	0.3000	1.0000%	3,896	0.3896%
		Crystalline Silica		14808-60-7	1.5000	5.0000%	19,481	1.9481%
		Metal Hydro Oxide		-----	4.2000	14.0000%	54,545	5.4545%

**Package Weight (mg): 77.0000**
**% 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”. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor material information are calculated using MSDS, Material Analysis Reports and Cypress Assembly sites 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-COVT-R
	Carrier tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-TRAY-R
Others	Moisture Barrier bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-MBBG-R
	Shielding bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R
	Protective Band	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PROB-R
	Shipping and inner/ pizza box	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-DESS-R

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.

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

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**ASSEMBLY Site 5: Cypress Bangkok**

**Package Qualification Report #152202 (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. Listed in the table below are materials that are neither contained nor intentionally added to this product.

Substances / Compounds	Weight by mg	PPM	Analysis Report (Note 2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BZ48-BKK
Hexavalent Chromium and its Compounds	0	< 5.0	
Lead and Lead Compounds	0	< 5.0	
Mercury and Mercury Compounds	0	< 5.0	
Polybrominated Biphenyls (PBB)	0	< 5.0	
Polybrominated Diphenylethers (PBDE)	0	< 5.0	
Asbestos	0	0	As per MSDS
Azo colorants	0	0	As per MSDS
Ozone Depleting Substances	0	0	As per MSDS
Polychlorinated Biphenyls (PCBs)	0	0	As per MSDS
Polychlorinated Napthalenes	0	0	As per MSDS
Radioactive Substances	0	0	As per MSDS
Shortchain Chlorinated Paraffins	0	0	As per MSDS
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	0	0	As per MSDS
Tributyl Tin Oxide (TBTO)	0	0	As per MSDS
Formaldehyde	0	0	As per MSDS

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

Material	Purpose of Use	Substance Composition	CAS Number	Weight by mg	% weight of substance per Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	SiO2 Glass Cloth	65997-17-3	9.7308	33.8316%	138,356	13.8356%
		Aluminum Hydroxide	21645-51-2	4.2682	14.8393%	60,686	6.0686%
		Epoxy resin	9003-36-5	5.5040	19.1361%	78,258	7.8258%
		Cu	7440-50-8	8.9457	31.1019%	127,193	12.7193%
		Ni	7440-02-0	0.2777	0.9654%	3,948	0.3948%
		Au	7440-57-5	0.0361	0.1256%	514	0.0514%
Solder Ball	External Plating	Sn	7440-31-5	4.8988	98.5000%	69,653	6.9653%
		Ag	7440-22-4	0.0497	1.0000%	707	0.0707%
		Cu	7440-50-8	0.0249	0.5000%	354	0.0354%
Die Attach	Adhesive	Silica	Trade Secret	0.0105	4.0000%	150	0.0150%
		Organic filler	Trade Secret	0.0528	20.0000%	751	0.0751%
		Acrylic resin	Trade Secret	0.1189	45.0000%	1,690	0.1690%
		Diluent	Trade Secret	0.0660	25.0000%	939	0.0939%
		Elastomer	Trade Secret	0.0132	5.0000%	188	0.0188%
		Organic peroxide	Trade Secret	0.0026	1.0000%	38	0.0038%
Die	Circuit	Si	7440-21-3	6.0717	100.0000%	86,330	8.6330%
Wire	Interconnect	Cu	7440-50-8	0.2244	98.3000%	3,191	0.3191%
		Pd	7440-05-3	0.0039	1.7000%	55	0.0055%
Mold Compound	Encapsulation	Silica (fused)	60676-86-0	25.5267	85.0000%	362,948	36.2948%
		Carbon Black	1333-86-4	0.0751	0.2500%	1,067	0.1067%
		Epoxy resin	Trade secret	4.1594	13.8500%	59,139	5.9139%
		Phosphoric organic catalyst	Trade secret	0.0901	0.3000%	1,281	0.1281%
		Metal Oxides	Trade secret	0.1802	0.6000%	2,562	0.2562%

**Package Weight (mg):** **70.3314**
**% Total:** **100.0000**

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## 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-COVT-R
	Carrier tape	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-CART-R
	Plastic Reel	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PLRL-R
Tray	Tray	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-TRAY-R
Others	Moisture Barrier bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-MBBG-R
	Shielding bag	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-SBAG-R
	Protective Band	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-PROB-R
	Shipping and inner/ pizza box	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-ABOX-R
	Desiccant	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	CoA-DESS-R

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## Document History Page

Document Title: 48 - BGA (6X8MM) PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET  
Document Number: 001-04279

Rev.	ECN No.	Orig. of Change	Description of Change
**	390185	GFJ	New document
*A	445940	VFR	Added PMDD for site 3 and corrected the number of qualified sites on summary.
*B	741896	VFR	Added PMDD for site 4 and changed Cypress logo on the header. Added % Weight of Substance per Homogenous Material in Material Composition table and updated the Declaration of Indirect Packaging Materials table for the other 3 sites as well.
*C	1117864	VFR	Added PMDD for site 5.
*D	2664828	HLR	Added Assembly Site 6. Reference QTP No. 063001.
*E	2682850	HLR	Added Note 4 on Footer Section. Corrected CAS Number of Gold. Removed the material name of Substrate for Assembly Site 4 and 5. Changed CML to WEB in distribution list.
*F	2767047	HLR	Corrected the PPM value for Adhesive on Assembly Site 3.
*G	2796743	MAHA	Revised the package weight of assembly site 1 on page 1. Revised the material composition table of assembly site 1.
*H	2922715	MAHA	Corrected the CAS numbers of Epoxy Resin 1 and Phenol resin for assembly site 1. Corrected the CAS number of Ag for assembly site 2. Deleted the % sign from the CAS number of Fused Silica for assembly site 4. Deleted the % sign from the CAS number of Epoxy Resin for the die attach of assembly site 5. Corrected the CAS number of Carbon Black for the die attach of assembly site 5. Added CAS numbers for Epoxy Resin 1 and Phenol resin for the mold compound of assembly site 6.
*I	3223042	HLR/MAHA	Corrected the total package weight for Assembly Site 2.
*J	3556309	JARG	Updated Assembly Sites 1, 2, 3 and 4 to reflect 4 decimal places on values of material composition table. Consolidate material composition tables of Assembly Sites 2 and 6 into one site. (B1 – Using Non-Halogen Free

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Rev.	ECN No.	Orig. of Change	Description of Change
			Substrate and B2 – Using Halogen Free Substrate) Consolidate material composition tables of Assembly Sites 4 and 5 into one site. (B1 – Using EME-G760V Mold Compound and B2 – Using Nitto GE100LFCSV Mold Compound)
*K	3604029	UDR	Changed Site 1 from R to RA. Added B2 for Site 1 – Autoline (CML-RA) Copper Wire Qualification. Reference QTP # 120610. Added B3 and B4 for Site 2 – ASEKH (G) Copper Wire Qualification. Reference QTP # 120301 and 120612.
*L	3641969	NKZ	Added automotive QTP reference 042905 in Assembly 2.
*M	3960646	JARG	Corrected PPM values for Assembly Site 4:B1 to meet 1,000,000 total PPM Corrected % weight of substance per package for Assembly Site 4:B2 to meet 100% weight on total value.
*N	4033398	YUM	Added assembly site name in the assembly heading in site 1, 2, 3 and 4. Changed the Assembly code to Assembly Site Name in site 1, 2, 3 and 4.
*O	4054523	HLR	Added B5 Material Composition on Assembly Site 2 in reference to QTP No. 131806.
*P	4076855	YUM	Deleted and transferred Assembly site 2:B5 Material Composition to a new document 001-88565 to reflect the correct package code BK48M. Corrected Cu-Pd wire to Au Wire in reference with QTP 131806 upon transferring the same material composition to the new document.
*Q	4106670	CMG	Added Package Weight – Site 2 B5 for new FBGA 6x8x1.0mm in ASE, Taiwan. Added reference QTP# on Assembly Site 2 Added sub-section B5. Material Composition on Assembly Site 2
*R	4267161	AWP	Added Package Weight – Site 1 B3 for Autoline-big die (for Amazon device). Added QTP# 140204 on Assembly Site 1.

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Rev.	ECN No.	Orig. of Change	Description of Change
*S	4366013	NKZ	Removed reference QTP 131806 in Assembly 2 as per rev *P of this document data was transferred to spec 001-88565.
*T	4777710	CMG CS	1) Added Pkg QTP# 143606 and 143605 on Assembly Site 1 and 2 respectively 2) Added Package Weight - Site 5 on Cypress Package Code table. 3) Revised four assembly sites to five assembly sites on Summary section 4) Added Cypress Bangkok as Assembly Site 5 per QTP#152202

Distribution: WEB

Posting: None

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