



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**PACKAGE MATERIAL DECLARATION DATASHEET**

<b>Cypress Package Code</b>	BW	<b>Body Size (mil/mm)</b>	13 x 15 mm
<b>Package Weight – Site 1</b>	B1: 588.9801 mg B2: 629.1346 mg B3: 412.7573 mg B4: 412.7573 mg B5 : 468.4988 mg	<b>Package Weight – Site 2</b>	B1: 474.2273 mg B2: 473.6882 mg
<b>Package Weight – Site 3</b>	B1: 506.8201 mg B2: 498.6761 mg B3: 478.0000 mg	<b>Package Weight – Site 4</b>	B1: 480.6967 mg

**SUMMARY**

The 165-BGA Pb-Free package is compliant to RoHS. Cypress Ordering Part Numbers containing an “X” (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) meet the Directive 2002/95/EC (RoHS) requirement.

**ASSEMBLY Site 1: Advanced Semiconductor Engineering Taiwan (ASET)  
Package Qualification Report #s 050704, 113007, 120107, 120612, 141202 (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 (Note2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BW165-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 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.

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



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**B1. MATERIAL COMPOSITION (Note 3)  
Adhesive using epoxy paste**

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	17.7650	11.0000%	30,162	3.0162%
		Acrylic	29690-82-2	16.1500	10.0000%	27,420	2.7420%
		Epoxy	68541-56-0	12.9200	8.0000%	21,936	2.1936%
		Bisphenol	13676-54-5	24.2250	15.0000%	41,130	4.1130%
		Triazol	25722-66-1	28.2625	17.5000%	47,986	4.7986%
		Cu	7440-50-8	58.7860	36.4000%	99,810	9.9810%
		Ni	7440-02-0	2.4225	1.5000%	4,113	0.4113%
		Au	7440-57-5	0.8075	0.5000%	1,371	0.1371%
		Br	7726-95-6	0.1615	0.1000%	274	0.0274%
Solder Ball	External Plating	Sn	7440-31-5	76.4955	95.5000%	129,878	12.9878%
		Ag	7440-22-4	3.2040	4.0000%	5,440	0.5440%
		Cu	7440-50-8	0.4005	0.5000%	680	0.0680%
Die Attach	Adhesive	Fused Silica	60676-86-0	50.1876	54.0000%	85,211	8.5211%
		Diester	Trade Secret	25.5585	27.5000%	43,395	4.3395%
		Epoxy Resin	Trade Secret	5.1117	5.5000%	8,679	0.8679%
		Functionalized esters	Trade Secret	9.2940	10.0000%	15,780	1.5780%
		Polymeric Resin	Trade Secret	2.7882	3.0000%	4,734	0.4734%
Die	Circuit	Si	7440-21-3	54.8900	100.0000%	93,195	9.3195%
Wire	Interconnect	Au	7440-57-5	5.2400	100.0000%	8,897	0.8897%
Mold Compound	Encapsulation	Silica Fused	60676-86-0	172.9359	89.0000%	293,619	29.3619%
		Epoxy Resin	Trade Secret	10.6871	5.5000%	18,145	1.8145%
		Phenolic Resin	Trade Secret	10.6871	5.5000%	18,145	1.8145%

**Package Weight (mg): 588.9801**

**% 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

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

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	16.9088	10.4900%	26,876	2.6876%
		Acrylic	29690-82-2	14.8295	9.2000%	23,571	2.3571%
		Epoxy	68541-56-0	9.8971	6.1400%	15,731	1.5731%
		Bisphenol	13676-54-5	24.1463	14.9800%	38,380	3.8380%
		Triazol	25722-66-1	28.9820	17.9800%	46,066	4.6066%
		Cu	7440-50-8	63.3960	39.3300%	100,767	10.0767%
		Ni	7440-02-0	2.2405	1.3900%	3,561	0.3561%
Solder Ball	External Plating	Au	7440-57-5	0.7898	0.4900%	1,255	0.1255%
		Sn	7440-31-5	172.6875	95.5000%	274,484	27.4484%
		Ag	7440-22-4	7.2330	4.0000%	11,497	1.1497%
Die Attach (FILM)	Adhesive	Cu	7440-50-8	0.9041	0.5000%	1,437	0.1437%
		Cresol-epichlorohydrin-formaldehyde polymer	37382-79-9	33.5580	60.0000%	53,340	5.3340%
		Rubber modified epoxy	Trade Secret	16.7790	30.0000%	26,670	2.6670%
		Aromatic amine	Trade Secret	2.7965	5.0000%	4,445	0.4445%
		Silicon-based glycidyl ether	2530-83-8	2.2372	4.0000%	3,556	0.3556%
Die	Circuit	4,4'-Isopropylidene diphenol	80-05-7	0.5593	1.0000%	889	0.0889%
Wire	Interconnect	Si	7440-21-3	32.9900	100.0000%	52,437	5.2437%
		Au	7440-57-5	3.8996	99.9900%	6,198	0.6198%
Mold Compound	Encapsulation	Ion Impurities	Trade Secret	0.0004	0.0100%	1	0.0001%
		Silica fused	60676-86-0	172.9270	89.0000%	274,866	27.4866%
		Epoxy Resin (1)	93705-66-9	8.7435	4.5000%	13,898	1.3898%
		Epoxy Resin (2)	Undisclosed	3.8860	2.0000%	6,177	0.6177%
		Phenol resin	106466-55-1	8.7435	4.5000%	13,898	1.3898%

**Package Weight (mg): 629.1346**

**% 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**B3. MATERIAL COMPOSITION (Note 3)  
Copper 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	SiO2	60676-86-0	17.7306	11.0000%	42,955	4.2955%
		Acrylic	29690-82-2	16.1187	10.0000%	39,051	3.9051%
		Epoxy	68541-56-0	12.895	8.0000%	31,241	3.1241%
		Bisphenol	13676-54-5	24.178	15.0000%	58,577	5.8577%
		Triazol	25722-66-1	28.2077	17.5000%	68,340	6.8340%
		Cu	7440-50-8	58.7526	36.4500%	142,342	14.2342%
		Ni	7440-02-0	2.4178	1.5000%	5,858	0.5858%
Solder Ball	External Plating	Au	7440-57-5	0.8865	0.5500%	2,148	0.2148%
		Sn	7440-31-5	76.1824	95.5000%	184,568	18.4568%
		Ag	7440-22-4	3.1909	4.0000%	7,731	0.7731%
Die Attach (FILM)	Adhesive	Cu	7440-50-8	0.3989	0.5000%	966	0.0966%
		Modified Epoxy resin	Trade Secret	1.1619	61.5463%	2,815	0.2815%
		Epoxy resin	Trade Secret	0.4624	24.4905%	1,120	0.1120%
		Dapsone	80-08-0	0.1466	7.7629%	355	0.0355%
		Treated fume silica	67762-90-7	0.0395	2.0928%	96	0.0096%
		Substituted silane	Trade Secret	0.0286	1.5155%	69	0.0069%
		Elastomeric polymer	Trade Secret	0.0250	1.3267%	61	0.0061%
Die	Circuit	Epoxy resin	Trade Secret	0.0239	1.2653%	58	0.0058%
Wire	Interconnect	Si	7440-21-3	51.273	100.0000%	124,221	12.4221%
		Copper (Cu)	7440-50-8	2.008	99.9900%	4,865	0.4865%
Mold Compound	Encapsulation	Ion Impurities	Trade Secret	0.0002	0.0100%	1	0.0001%
		Silica	60676-86-0	104.6163	89.7000%	253,457	25.3457%
		Epoxy Resin	Trade Secret	6.4146	5.5000%	15,541	1.5541%
		Phenol resin	Trade Secret	5.2483	4.5000%	12,715	1.2715%
		Carbon Black	1333-86-4	0.3499	0.3000%	849	0.0849%

**Package Weight (mg): 412.7573**

**% 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**B4. MATERIAL COMPOSITION (Note 3)  
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	SiO2	60676-86-0	17.7306	11.0000%	42,956	4.2956%
		Acrylic	29690-82-2	16.1187	10.0000%	39,051	3.9051%
		Epoxy	68541-56-0	12.895	8.0000%	31,241	3.1241%
		Bisphenol	13676-54-5	24.178	15.0000%	58,577	5.8577%
		Triazol	25722-66-1	28.2077	17.5000%	68,340	6.8340%
		Cu	7440-50-8	58.7526	36.4500%	142,342	14.2342%
		Ni	7440-02-0	2.4178	1.5000%	5,858	0.5858%
Solder Ball	External Plating	Au	7440-57-5	0.8865	0.5500%	2,148	0.2148%
		Sn	7440-31-5	76.1824	95.5000%	184,569	18.4569%
		Ag	7440-22-4	3.1909	4.0000%	7,731	0.7731%
Die Attach (FILM)	Adhesive	Cu	7440-50-8	0.3989	0.5000%	966	0.0966%
		Modified Epoxy resin	Trade Secret	1.1619	61.5463%	2,815	0.2815%
		Epoxy resin	Trade Secret	0.4624	24.4905%	1,120	0.1120%
		Dapsone	80-08-0	0.1466	7.7629%	355	0.0355%
		Treated fume silica	67762-90-7	0.0395	2.0928%	96	0.0096%
		Substituted silane	Trade Secret	0.0286	1.5155%	69	0.0069%
		Elastomeric polymer	Trade Secret	0.0250	1.3267%	61	0.0061%
Die	Circuit	Epoxy resin	Trade Secret	0.0239	1.2653%	58	0.0058%
Wire	Interconnect	Si	7440-21-3	51.2729	100.0000%	124,220	12.4220%
		Copper (Cu)	7440-50-8	1.954	97.3000%	4,734	0.4734%
Mold Compound	Encapsulation	Palladium (Pd)	7440-05-3	0.0542	2.7000%	131	0.0131%
		Silica	60676-86-0	104.6164	89.7000%	253,457	25.3457%
		Epoxy Resin	Trade Secret	6.4146	5.5000%	15,542	1.5542%
		Phenol resin	Trade Secret	5.2483	4.5000%	12,715	1.2715%
		Carbon Black	1333-86-4	0.3499	0.3000%	848	0.0848%

**Package Weight (mg): 412.7573**

**% 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**B5. MATERIAL COMPOSITION (Note 3)  
Au Wire Material using Film Adhesive and G1250 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	Cured Resin	Trade Secret	7.2520	28.0000	15,479	1.5479%
		Glass Fabrics	Trade Secret	5.6980	22.0000	12,162	1.2162%
		Copper Foil	7440-50-8	7.7700	30.0000	16,585	1.6585%
		Diethylene Glycol Monoethyl Ether Acetate	Trade Secret	1.2950	5.0000	2,764	0.2764%
		Acetophenone Derivative	Trade Secret	1.2950	5.0000	2,764	0.2764%
		Silica Crystalline	Trade Secret	1.2950	5.0000	2,764	0.2764%
		Solvent naphtha	Trade Secret	1.2950	5.0000	2,764	0.2764%
Solder Ball	External Plating	Sn	7440-31-5	84.7754	95.5000	180,951	18.0951%
		Ag	7440-22-4	3.5508	4.0000	7,579	0.7579%
		Cu	7440-50-8	0.4439	0.5000	947	0.0947%
Die Attach (FILM)	Adhesive	Epoxy resin	Trade Secret	2.9785	87.5000	6,358	0.6358%
		Dapsone	80-08-0	0.2553	7.5000	545	0.0545%
		Treated fume silica	67762-90-7	0.0851	2.5000	182	0.0182%
		Substituted silane	Trade Secret	0.0851	2.5000	182	0.0182%
Die	Circuit	Si	7440-21-3	59.5700	100.0000	127,150	12.7150%
Wire	Interconnect	Gold	7440-50-8	11.8859	100.0000	25,370	2.5370%
Mold Compound	Encapsulation	Silica	60676-86-0	247.5849	88.7500	528,463	52.8463%
		Epoxy Resin	Trade Secret	16.7381	6.0000	35,727	3.5727%
		Phenol resin	Trade Secret	13.9484	5.0000	29,773	2.9773%
		Carbon Black	1333-86-4	0.6974	0.2500	1,489	0.1489%

**Package Weight (mg): 468.4988**

**% 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**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

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





**ASSEMBLY Site 2: PT UNISEM Batam  
Package Qualification Report #s 071207, 073509 (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 (Note2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BW165-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 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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**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**B1. MATERIAL COMPOSITION (Note 3)**  
Using Green Molding 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	1.0746	0.7398%	2,266	0.2266%	
			Ni, metal & alloy	7440-02-0	4.9375	3.3993%	10,412	1.0412%	
		Plating 2	Cu, metal & alloy	7440-50-8	37.1037	25.5449%	78,240	7.8240%	
			Acrylic Resin	Phthalcyanine Blue, Organic Pigment	Trade Secret	0.0145	0.0100%	31	0.0031%
		Fillers (Barium Sulfate, Silica, Talc)		Trade Secret	0.8568	0.5899%	1,807	0.1807%	
		Aromatic Carbonyl Compound		Trade Secret	0.1162	0.0800%	245	0.0245%	
		Amine Compound		Trade Secret	0.1888	0.1300%	398	0.0398%	
		Levelling Agents & Others		Trade Secret	0.0436	0.0300%	92	0.0092%	
		Acrylic Monomer		Trade Secret	0.1452	0.1000%	306	0.0306%	
		Epoxy Resin		29690-82-2 68541-56-0 25068-38-6		0.4937	0.3399%	1,041	0.1041%
				Barium Sulfate	Trade Secret	0.2178	0.1499%	459	0.0459%
		Organic Fillers		Trade Secret	0.0436	0.0300%	92	0.0092%	
		BT Resin		13676-54-5 25722-66-1		43.5660	29.9940%	91,867	9.1867%
			Fibrous-glass-wool	65997-17-3	55.3288	38.0924%	116,672	11.6672%	
Solder Ball	External Plating	Sn	7440-31-5	76.9975	98.5000%	162,364	16.2364%		
		Ag	744-22-4	0.7817	1.0000%	1,648	0.1648%		
		Cu	7440-50-8	0.3909	0.5000%	824	0.0824%		
Die Attach	Adhesive	Ag	7440-22-4	5.0330	70.0000%	10,613	1.0613%		
		Epoxy Resin	Trade Secret	0.3595	5.0000%	758	0.0758%		
		Diester	Trade Secret	0.7190	10.0000%	1,516	0.1516%		
		Polymeric Resin	Trade Secret	0.3595	5.0000%	758	0.0758%		
		Functionalized Ester	Trade Secret	0.7190	10.0000%	1,516	0.1516%		
Die	Circuit	Si	7440-21-3	25.4000	100.0000%	53,561	5.3561%		
Wire	Interconnect	Au	7440-57-5	18.1782	100.0000%	38,332	3.8332%		
Mold Compound	Encapsulation	Fused Silica	60676-86-0	190.0380	95.0000%	400,734	40.0734%		
		Epoxy Resin	Trade Secret	4.0008	2.0000%	8,436	0.8436%		
		Phenol Resin	Trade Secret	1.0002	0.5000%	2,109	0.2109%		
		Phenol Novolac	9003-35-4	2.0004	1.0000%	4,218	0.4218%		
		Metal Hydroxide	Trade Secret	2.0004	1.0000%	4,218	0.4218%		

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.



## 165-FBGA (13 x 15 mm) Pb-Free Package

	Carbon Black	1333-86-4	1.0002	0.5000%	2,109	0.2109%
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**Package Weight (mg):** **474.2273**

**% Total:** **100.0000**

### B2. MATERIAL COMPOSITION (Note 3)

Using standard molding 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	1.0710	0.7400%	2,261	0.2261%
			Ni, metal & alloy	7440-02-0	4.9208	3.4000%	10,388	1.0388%
		Plating 2	Cu, metal & alloy	7440-50-8	36.9785	25.5500%	78,065	7.8065%
			Acrylic Resin	Trade Secret	1.1144	0.7700%	2,353	0.2353%
		Phthalocyanine Blue, Organic Pigment	Trade Secret	0.0145	0.0100%	31	0.0031%	
		Fillers (Barium Sulfate, Silica, Talc)	Trade Secret	0.8539	0.5900%	1,803	0.1803%	
		Aromatic Carbonyl Compound	Trade Secret	0.1158	0.0800%	244	0.0244%	
		Amine Compound	Trade Secret	0.1881	0.1300%	397	0.0397%	
		Levelling Agents & Others	Trade Secret	0.0434	0.0300%	92	0.0092%	
		Acrylic Monomer	Trade Secret	0.1447	0.1000%	306	0.0306%	
		Epoxy Resin	29690-82-2 68541-56-0 25068-38-6	0.0000		0	0.0000%	
		Barium Sulfate	Trade Secret	0.2171	0.1500%	458	0.0458%	
		Organic Fillers	Trade Secret	0.0434	0.0300%	92	0.0092%	
			BT Resin	13676-54-5 25722-66-1	43.8821	30.3200%	92,639	9.2639%
	Fibrous-glass-wool	65997-17-3	55.1421	38.1000%	116,410	11.6410%		
Solder Ball	External Plating	Sn	7440-31-5	76.9975	98.5000%	162,549	16.2549%	
		Ag	7440-22-4	0.7817	1.0000%	1,650	0.1650%	
		Cu	7440-50-8	0.3909	0.5000%	825	0.0825%	
Die Attach	Adhesive	Bismaleimide	Trade Secret	4.3260	60.0000%	9,133	0.9133%	
		Silicon Resin	Trade Secret	1.8025	25.0000%	3,805	0.3805%	
		Epoxy Resin	9003-36-5	0.7210	10.0000%	1,522	0.1522%	
		Diluent	Trade Secret	0.2884	4.0000%	609	0.0609%	
		Carbon Black	1333-86-4	0.0361	0.5000%	76	0.0076%	
		Dicyandiamide	461-58-5	0.0361	0.5000%	76	0.0076%	
Die	Circuit	Si	7440-21-3	25.4000	100.0000%	53,622	5.3622%	
Wire	Interconnect	Au	7440-57-5	18.1782	100.0000%	38,376	3.8376%	
Mold	Encapsulation	Fused Silica	60676-86-0	190.0000	95.0000%	401,108	40.1108%	

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



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

Compound							
		Solid Epoxy Resin	Trade Secret	4.0000	2.0000%	8,444	0.8444%
		Phenol Resin	Trade Secret	1.0000	0.5000%	2,111	0.2111%
		Carbon Black	1333-86-4	2.0000	1.0000%	4,222	0.4222%
		Crystallin eSilica	14808-60-7	2.0000	1.0000%	4,222	0.4222%
		Metal Hydro Oxide	Trade Secret	1.0000	0.5000%	2,111	0.2111%
<b>Package Weight (mg):</b>				<b>473.6882</b>		<b>% Total:</b>	<b>100.000%</b>

**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

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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**ASSEMBLY Site 3: Cypress Manufacturing Limited (CML)  
Package Qualification Report #s 094002, 120610, 133105, 144604 (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 (Note2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BW165-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 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" 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

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

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	Trade Secret	73.4076	28.0000%	144,840	14.4840
		Glass Fabrics	Trade Secret	57.6774	22.0000%	113,803	11.3803
		Copper Foil	Trade Secret	78.6510	30.0000%	155,185	15.5185
		Diethylene Glycol Monoethyl Ether Acetate	Trade Secret	13.1085	5.0000%	25,864	2.5864
		Acetophenone Derivative	Trade Secret	13.1085	5.0000%	25,864	2.5864
		Silica Crystalline	Trade Secret	13.1085	5.0000%	25,864	2.5864
		Solvent naphtha	Trade Secret	13.1085	5.0000%	25,864	2.5864
Solder Ball	External Plating	Sn	7440-31-5	84.7754	95.5000%	167,269	16.7269
		Ag	7440-22-4	3.5508	4.0000%	7,006	0.7006
		Cu	7440-50-8	0.4439	0.5000%	876	0.0876
Die Attach	Adhesive	Ag	7440-22-4	3.2480	80.0000%	6,409	0.6409
		Bismaleimide	Trade Secret	0.4060	10.0000%	801	0.0801
		Polymer	Trade Secret	0.4060	10.0000%	801	0.0801
Die	Circuit	Silicon	7440-21-3	33.1000	100.0000%	65,309	6.5309
Wire	Interconnect	Au	7440-57-5	15.2600	100.0000%	30,109	3.0109
Mold Compound	Encapsulation	Silica	60676-86-0	89.4929	86.5000%	176,577	17.6577
		Non-Brominated Flame Retardant	Trade Secret	5.1730	5.0000%	10,207	1.0207
		Epoxy Resin	Trade Secret	5.1730	5.0000%	10,207	1.0207
		Phenol Resin	Trade Secret	2.5865	2.5000%	5,103	0.5103
		Mixed Siloxanes	Trade Secret	0.5173	0.5000%	1,021	0.1021
		Carbon Black Pigment	1333-86-4	0.5173	0.5000%	1,021	0.1021

**Package Weight (mg):** 506.8201

**% 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**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 Homogeneous material	PPM	% weight of substance per package
Substrate	Base Material	Cured Resin	Trade Secret	73.4000	27.9970%	147,190	14.7190%
		Glass Fabrics	Trade Secret	57.6800	22.0010%	115,666	11.5666%
		Copper Foil	Trade Secret	78.6500	29.9996%	157,718	15.7718%
		Diethylene Glycol Monoethyl Ether Acetate	Trade Secret	13.1100	5.0006%	26,290	2.6290%
		Acetophenone Derivative	Trade Secret	13.1100	5.0006%	26,290	2.6290%
		Silica Crystalline	Trade Secret	13.1100	5.0006%	26,290	2.6290%
		Solvent naphtha	Trade Secret	13.1100	5.0006%	26,290	2.6290%
Solder Ball	External Plating	Sn	7440-31-5	84.7800	95.5052%	170,010	17.0010%
		Ag	7440-22-4	3.5500	3.9991%	7,119	0.7119%
		Cu	7440-50-8	0.4400	0.4957%	882	0.0882%
Die Attach	Adhesive	Silver	7440-22-4	3.2400	79.8030%	6,496	0.6496%
		Bismaleimide Resin	65997-17-3	0.4100	10.0984%	822	0.0822%
		Synthetic Resin	Trade Secret	0.2659	6.5493%	533	0.0533%
		Additive	Trade Secret	0.1441	3.5493%	289	0.0289%
Die	Circuit	Silicon	7440-21-3	33.1000	100.0000%	66,376	6.6376%
Wire	Interconnect	Cu	7440-50-8	7.0449	98.9995%	14,127	1.4127%
		Pd	7440-05-3	0.0712	1.0005%	143	0.0143%
Mold Compound	Encapsulation	Silica	60676-86-0	92.0798	89.0004%	184,649	18.4649%
		Epoxy Resin	Trade Secret	7.2419	6.9997%	14,522	1.4522%
		Phenol Resin	Trade Secret	3.1037	2.9999%	6,224	0.6224%
		Melamine Cyanurate	Trade Secret	0.5173	0.5000%	1,037	0.1037%
		Carbon Black Pigment	1333-86-4	0.5173	0.5000%	1,037	0.1037%

**Package Weight (mg): 498.6761**

**% 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

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

Using Copper-Palladium Wire material, GR9810 Mold Compound and ATB120 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	Cured Resin	Trade Secret	73.4048	28.0000	153,567	15.3567%
		Glass Fabrics	Trade Secret	57.6752	22.0000	120,659	12.0659%
		Copper Foil	Trade Secret	78.6480	30.0000	164,536	16.4536%
		Diethylene Glycol Monoethyl Ether Acetate	Trade Secret	13.1080	5.0000	27,423	2.7423%
		Acetophenone Derivative	Trade Secret	13.1080	5.0000	27,423	2.7423%
		Silica Crystalline	Trade Secret	13.1080	5.0000	27,423	2.7423%
		Solvent naphtha	Trade Secret	13.1080	5.0000	27,423	2.7423%
Solder Ball	External Plating	Sn	7440-31-5	84.7754	95.5000	177,354	17.7354%
		Ag	7440-22-4	3.5508	4.0000	7,428	0.7428%
		Cu	7440-50-8	0.4439	0.5000	928	0.0928%
Die Attach	Adhesive	Epoxy Resin adduct	Trade Secret	2.8303	77.0000	5,921	0.5921%
		Epoxy Resin	Trade Secret	0.5514	15.0000	1,153	0.1153%
		Dapsone	80-08-0	0.1470	4.0000	307	0.0307%
		Fumed Silica	67762-90-7	0.0735	2.0000	154	0.0154%
		Silane	Trade Secret	0.0735	2.0000	154	0.0154%
Die	Circuit	Si	7440-21-3	33.100	100.0000	69,247	6.9247%
Wire	Interconnect	Copper	7440-50-8	4.4883	99.0000	9,390	0.9390%
		Palladium	7440-05-3	0.0453	1.0000	95	0.0095%
Mold Compound	Encapsulation	Silica	60676-86-0	74.6117	87.0000	156,092	15.6092%
		Epoxy Resin	Trade Secret	7.2897	8.5000	15,250	1.5250%
		Phenol Resin	Trade Secret	3.0016	3.5000	6,279	0.6279%
		Melamine Cyanurate	Trade Secret	0.4288	0.5000	897	0.0897%
		Carbond Black Pigment	1333-86-4	0.4288	0.5000	897	0.0897%

**Package Weight (mg):** 478.0000

**% 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" 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.





**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**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

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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” 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: Cypress Bangkok  
Package Qualification Report # 153602, 153605 (Note 1)**

**I. DECLARATION OF PACKAGED UNITS**

**B. 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 (Note2)
Cadmium and Cadmium Compounds	0	< 5.0	CoA-BW165-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 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" 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

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

Using Copper-Palladium Wire material, KMC-3580LVA Mold Compound and HR9050G 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	Aluminum Hydroxide	21645-51-2	29.8496	16.2300%	62,099	6.2099%
		Copper	7440-50-8	53.1149	28.8798%	110,500	11.0500%
		Gold	7440-57-5	0.2145	0.1166%	446	0.0446%
		Nickel	7440-02-0	4.9462	2.6894%	10,290	1.0290%
		Epoxy resin	Trade secret	37.2404	20.2485%	77,475	7.7475%
		SiO <sub>2</sub> Glass Cloth	65997-17-3	58.5512	31.8357%	121,810	12.1810%
Solder Ball	External Plating	Sn	7440-31-5	76.2874	95.5000%	158,708	15.8708%
		Ag	7440-22-4	3.1953	4.0000%	6,647	0.6647%
		Cu	7440-50-8	0.3994	0.5000%	831	0.0831%
Die Attach	Adhesive	Epoxy resin	Trade secret	0.3839	80.0000%	799	0.0799%
		Silica (fused)	60676-86-0	0.0960	20.0000%	200	0.0200%
Die	Circuit	Silicon	7440-21-3	25.6060	100.0000%	53,271	5.3000%
Wire	Interconnect	Cu	7440-50-8	1.0918	98.3000%	2,271	0.2271%
		Pd	7440-05-3	0.0189	1.7000%	39	0.0039%
Mold Compound	Encapsulation	Silica (fused)	60676-86-0	161.2460	85.0000%	335,455	33.5455%
		Carbon Black	1333-86-4	0.4743	0.2500%	987	0.0987%
		Epoxy resin	Trade secret	26.2736	13.8500%	54,659	5.4659%
		Phosphoric organic catalyst	Trade secret	0.5691	0.3000%	1,184	0.1184%
		Metal Oxides	Trade secret	1.1382	0.6000%	2,368	0.2368%

**Package Weight (mg):** 480.6967

**% 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.



**165-FBGA (13 x 15 mm)  
Pb-Free Package**

**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

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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 (13 X 15 MM) PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET  
Document Number: 001-05409

Rev.	ECN No.	Orig. of Change	Description of Change
**	402752	GFJ	New document
*A	979562	VFR	Change Cypress Logo. Added PMDD for site 2 – AIT, Batam, Indonesia.
*B	1639867	VFR	Added new PMDD for AIT, Batam, Indonesia under Assembly site 3 – there is a change in mold compound and epoxy used. It uses low alpha mold compound and non-conductive epoxy.
*C	2584298	HLR	Added the CAS number for Br. Changed CAS number of Au on Assembly site 1. Added the %weight of homogenous material on Assembly site 1's material composition table. Removed the name of material for substrate on Assembly Site 1 and 2.
*D	2711410	JARG	Changed reference QTP # for Assembly Site 1
*E	2828353	HLR	Added Assembly Site 4.
*F	3361110	HLR	Added package weight B2 for Site 1. Added "adhesive using epoxy paste" for Material Composition table for Site-1. Added Material Composition table B2 using adhesive film material at ASE-G site.
*G	3428794	MAHA	Corrected the CAS number of Au on the wire of assembly site 1 – B2.
*H	3546873	EBZ UDR	Added package weight B3 for Site 1. Added Material Composition table B3 using copper wire material for Site 1. Added reference QTP #120107 for Site 1 Added new Material Composition Table B2 at Assembly Site 4 – Autoline RA Copper Wire Qualification. Reference QTP # 120610.
*I	3559733	EBZ	Added package weight B4 for Site 1. Added Material Composition table B4 using copper palladium wire material for Site 1. Added reference QTP #120612 for Site 1. Specified wire material for B1 and B2 for Site 4.
*J	3749957	HLR	Updated the material composition tables for Assembly Site 1.B1, Assembly Site 2, Assembly Site 3 and Assembly Site 4.B1 to reflect 4 decimal places on values.

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Rev.	ECN No.	Orig. of Change	Description of Change
*K	4058286	YUM	Added Assembly Site Name in the Assembly heading in site 1, 2 and 3 Changed Assembly code to Assembly site Name in site 1, 2 and 3. Removed entire Tube row in the Indirect Materials section. Consolidate material composition in one assembly site (PT UNISEM).
*L	4129555	JARG	Added material composition table for Assembly Site 3:B3 in reference to QTP 133105. Corrected package weight and added comma on PPM values for the material composition table of Assembly Site1:B2. Corrected % weight of substance per package for the material composition for Assembly Site 3:B2 to meet 100.0000%.
*M	4400765	HLR	Added B5 Material Composition for Assembly site 1 - QTP No. 141202 (Automotive).
*N	4517996	HLR	Corrected the CAS Number of Palladium on Assembly Site. 1. B4 Material Composition table. Removed the % symbol on CAS Number at Carbon Black and Epoxy Resin for Assembly Site 2.B2 Material Composition table.
*O	4675460	CS	Added reference QTP No. 144604 to Assembly Site 3
*P	4906329	CS	Sunset Review - added assembly Site 4, Cypress Bangkok, QTP153602.
		DCON	Removed Distribution and Posting from the document history page.
Q	4934318	CS	Added reference QTP No. 153605 to Assembly Site 4
*R	5471949	HLR	Changed Cypress Logo. Changed the substances with "-----", Proprietary and Undisclosed to "Trade Secret".

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