



# 165 – FBGA (15 x 17 mm) Non Pb-Free Package

## PACKAGE MATERIAL DECLARATION DATASHEET (PMDD)

<b>Cypress Package Code</b>	BB	<b>Body Size (mil/mm)</b>	15 x 17 mm
<b>Package Weight – Site 1</b>	B1: 618.0299 mg B2: 614.6384 mg	<b>Package Weight – Site 2</b>	590.1525 mg
<b>Package Weight – Site 3</b>	B1: 644.9992 mg B2: 653.6700 mg B3: 653.7077 mg		

### 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 #s 052208, 020401, 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	33.6478	54,444	
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 Naphthalenes	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 Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	SiO <sub>2</sub>	60676-86-0	17.5197	11.0000%	28,348	2.8348
		Acrylic	Proprietary, 29690-82-2	17.5197	11.0000%	28,348	2.8348
		Epoxy	68541-56-0, 25068-38-6	12.7416	8.0000%	20,616	2.0616
		Bisphenol	13676-54-5	23.8905	15.0000%	38,656	3.8656
		Triazol	25722-66-1	23.8905	15.0000%	38,656	3.8656
		Cu	7440-50-8	60.3633	37.9000%	97,671	9.7671
		Ni	7440-02-0	3.1854	2.0000%	5,154	0.5154
		Au	7440-57-5	0.1433	0.0900%	232	0.0232
		Br	7726-95-6	0.0159	0.0100%	26	0.0026
Solder Ball	External Plating	Sn	7440-31-5	57.2922	63.0000%	92,701	9.2701
		Pb	7439-92-1	33.6478	37.0000%	54,444	5.4444
Die Attach	Adhesive	Fused silica	60676-86-0	46.4300	50.0000%	75,126	7.5126
		Diester	Proprietary	27.8580	30.0000%	45,075	4.5075
		Epoxy Resin	Proprietary	4.6430	5.0000%	7,513	0.7513
		Functionalized esters	Proprietary	11.1432	12.0000%	18,030	1.8030
		Polymeric resin	Proprietary	2.7858	3.0000%	4,508	0.4508
Die	Circuit	Si	7440-21-3	53.8500	100.0000%	87,132	8.7132
Wire	Interconnect	Au	7440-57-5	5.1095	99.9900%	8,267	0.8267
		Ion Impurities	-----	0.0005	0.0100%	1	0.0001
Mold Compound	Encapsulation	Silica Fused	60676-86-0	194.4000	90.0000%	314,548	31.4548
		Epoxy resin	Proprietary	10.8000	5.0000%	17,475	1.7475
		Phenol resin	Proprietary	10.8000	5.0000%	17,475	1.7475

**Package Weight (mg):** **618.0299**

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

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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 Palladium Wire

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	17.5197	11.0000%	28504	2.8504%
		Acrylic	Proprietary, 29690-82-2	17.5197	11.0000%	28504	2.8504%
		Epoxy	68541-56-0, 25068-38-6	12.7416	8.0000%	20730	2.0730%
		Bisphenol	13676-54-5	23.8905	15.0000%	38869	3.8869%
		Triazol	25722-66-1	23.8905	15.0000%	38869	3.8869%
		Cu	7440-50-8	60.3633	37.9000%	98209	9.8209%
		Ni	7440-02-0	3.1854	2.0000%	5183	0.5183%
		Au	7440-57-5	0.1433	0.0900%	233	0.0233%
Solder Ball	External Plating	Br	7726-95-6	0.0159	0.0100%	26	0.0026%
		Sn	7440-31-5	57.2922	63.0000%	93213	9.3213%
Die Attach	Adhesive	Pb	7439-92-1	33.6478	37.0000%	54744	5.4744%
		Silica, amorphous, fused	60676-86-0	46.4300	50.0000%	75540	7.5540%
		Bismaleimide monomer	Trade Secret	27.8580	30.0000%	45324	4.5324%
		Acrylate monomer	Trade Secret	4.6430	5.0000%	7554	0.7554%
		Epoxy resin	Trade Secret	11.1432	12.0000%	18130	1.8130%
Die	Circuit	Acrylic resin	Trade Secret	2.7858	3.0000%	4532	0.4532%
		Si	7440-21-3	53.8500	100.0000%	87612	8.7612%
Wire	Interconnect	Copper (Cu)	7440-50-8	2.3827	96.9089%	3877	0.3877%
		Palladium	7440-05-3	0.0760	3.0911%	124	0.0124%
Mold Compound	Encapsulation	Silica	60676-86-0	194.7999	90.4953%	316934	31.6934%
		Epoxy resin	Trade Secret	9.9000	4.5991%	16107	1.6107%
		Phenol resin	Trade Secret	9.9000	4.5991%	16107	1.6107%
		Carbon Black	1333-86-4	0.6599	0.3066%	1074	0.1074%

**Package Weight (mg):** **614.6384**

**% Total:** **100**

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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	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-CART-R
	Plastic Reel	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-PLRL-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	-----	-----	CoA-TRAY-R
Others	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-SBAG -R
	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-MBBG-R
	Protective Band	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-PROB-R
	Shipping and Inner Box	< 10.0	< 4.0	< 4.0	< 5.0	-----	-----	CoA-ABOX-R

### **ASSEMBLY Site 2 – Package Qualification Report #s 084003 (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	29.6370	50,219	
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	

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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 Homogenous material	PPM	% weight of substance per package
Substrate	Base Material	Au, metal & alloy	7440-57-5	0.9219	0.2800%	1,562	0.1562
		Ni, metal & alloy	7440-02-0	4.2144	1.2800%	7,141	0.7141
		Cu, metal & alloy	7440-50-8	192.3149	58.4100%	325,873	32.5873
		Solder Mask	-----	27.4595	8.3400%	46,529	4.6529
		Epoxy Resin	-----	1.5146	0.4600%	2,566	0.2566
		BT Resin	-----	65.6525	19.9400%	111,247	11.1247
		Glass Fiber	-----	37.2053	11.3000%	63,043	6.3043
Solder Ball	External Plating	Sn	7440-31-5	50.4630	63.0000%	85,508	8.5508
		Pb	7439-92-1	29.6370	37.0000%	50,219	5.0219
Die Attach	Adhesive	Filler	Trade Secret	14.2272	48.0000%	24,108	2.4108
		BMI Hybrid Resin	Trade Secret	14.8200	50.0000%	25,112	2.5112
		Hardener	Trade Secret	0.2964	1.0000%	502	0.0502
		Others	Trade Secret	0.2964	1.0000%	502	0.0502
Die	Circuit	Si	7440-21-3	80.4000	100.0000%	136,236	13.6236
Wire	Interconnect	Au	7440-57-5	5.6594	99.9900%	9,590	0.9590
Mold Compound	Encapsulation	Silica Fused	60676-86-0	39.0420	60.0000%	66,156	6.6156
		Solid Epoxy Resin	-----	6.5070	10.0000%	11,026	1.1026
		Phenolic Resin	-----	6.5070	10.0000%	11,026	1.1026
		Carbon Black	1333-86-4	0.6507	1.0000%	1,103	0.1103
		Crystalline Silica	14808-60-7	3.2535	5.0000%	5,513	0.5513
		Metal Hydro Oxide	-----	9.1098	14.0000%	15,436	1.5436

**Package Weight (mg):** **590.1525**

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

**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	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-COVT-R
	Carrier tape	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-CART-R
	Plastic Reel	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-PLRL-R
Tray	Tray	< 2.0	< 2.0	< 2.0	< 2.0	-----	-----	CoA-TRAY-R
Others	Shielding bag	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-SBAG -R
	Moisture Barrier bag	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-MBBG-R
	Protective Band	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<5.0	CoA-PROB-R
	Shipping and Inner Box	< 10.0	< 4.0	< 4.0	< 5.0	-----	-----	CoA-ABOX-R

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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 #s 74102, #120609, #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	33.2046	51,480	
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 Naphthalenes	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	

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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)**

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	73.4048	28.0000	113,806	11.3806
		Glass Fabrics	Proprietary	57.6752	22.0000	89,419	8.9419
		Copper Foil	Proprietary	78.6480	30.0000	121,935	12.1935
		Diethylene Glycol Monoethyl Ether Acetate	Proprietary	13.1080	5.0000	20,322	2.0322
		Acetophenone Derivative	Proprietary	13.1080	5.0000	20,322	2.0322
		Silica Crystalline	Proprietary	13.1080	5.0000	20,322	2.0322
		Solvent naptha	Proprietary	13.1080	5.0000	20,322	2.0322
Solder Ball	External Plating	Sn	7440-31-5	57.1857	62.0000	88,660	8.8660
		Pb	7439-92-1	33.2046	36.0000	51,480	5.1480
		Ag	7440-22-4	1.8447	2.0000	2,860	0.2860
Die Attach	Adhesive	Silver	7440-22-4	3.4317	75.0000	5,322	0.5322
		Bismaleimide Resin	Proprietary	0.8007	17.5000	1,241	0.1241
		Synthetic Resin	Proprietary	0.2288	5.0000	355	0.0355
		Additive	Proprietary	0.1144	2.5000	177	0.0177
Die	Circuit	Silicon	7440-21-3	21.4000	100.00	33,178	3.3178
Wire	Interconnect	Au	7440-57-5	8.0068	100.00	12,414	1.2414
Mold Compound	Encapsulation	Silica	60676-86-0	221.9778	86.5000	344,153	34.4153
		Non-Brominated Flame Retardant	Proprietary	12.8311	5.0000	19,893	1.9893
		Epoxy Resin	Proprietary	12.8311	5.0000	19,893	1.9893
		Phenol Resin	Proprietary	6.4155	2.5000	9,947	0.9947
		Mixed Siloxanes	Proprietary	1.2831	0.5000	1,989	0.1989
		Carbon Black Pigment	1333-86-4	1.2831	0.5000	1,989	0.1989

**Package Weight (mg):** **644.9992**

**% Total:** **100**

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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 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	73.4048	28.0000%	112296	11.2296%
		Glass Fabrics	Proprietary	57.6752	22.0000%	88233	8.8233%
		Copper Foil	Proprietary	78.6480	30.0000%	120318	12.0318%
		Diethylene Glycol Monoethyl Ether Acetate	Proprietary	13.1080	5.0000%	20053	2.0053%
		Acetophenone Derivative	Proprietary	13.1080	5.0000%	20053	2.0053%
		Silica Crystalline	Proprietary	13.1080	5.0000%	20053	2.0053%
		Solvent naphtha	Proprietary	13.1080	5.0000%	20053	2.0053%
Solder Ball	External Plating	Sn	7440-31-5	57.1857	62.0000%	87484	8.7484%
		Pb	7439-92-1	33.2046	36.0000%	50797	5.0797%
		Ag	7440-22-4	1.8447	2.0000%	2822	0.2822%
Die Attach	Adhesive	Silver	7440-22-4	3.4317	75.0000%	5250	0.5250%
		Bismaleimide Resin	Proprietary	0.8007	17.4993%	1225	0.1225%
		Synthetic Resin	Proprietary	0.2288	5.0004%	350	0.0350%
		Additive	Proprietary	0.1144	2.5002%	175	0.0175%
Die	Circuit	Silicon	7440-21-3	21.4000	100.0000%	32738	3.2738%
Wire	Interconnect	Copper (Cu)	7440-50-8	3.7337	100.0000%	5712	0.5712%
Mold Compound	Encapsulation	Silica, fused	60676-86-0	238.5300	88.4868%	364909	36.4909%
		Epoxy Resin	Proprietary	18.7600	6.9593%	28699	2.8699%
		Phenolic Resin	Proprietary	8.0400	2.9826%	12300	1.2300%
		Melamine Cyanurate	Proprietary	2.5957	0.9629%	3971	0.3971%
		Carbon Black	1333-86-4	1.6400	0.6084%	2509	0.2509%

**Package Weight (mg):** **653.6700**

**% Total:** **100**

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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.



**B3. MATERIAL COMPOSITION (Note 3)**  
Using Copper-Palladium 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	73.4048	28.0000%	112290	11.2290%
		Glass Fabrics	Proprietary	57.6752	22.0000%	88228	8.8228%
		Copper Foil	Proprietary	78.6480	30.0000%	120311	12.0311%
		Diethylene Glycol Monoethyl Ether Acetate	Proprietary	13.1080	5.0000%	20052	2.0052%
		Acetophenone Derivative	Proprietary	13.1080	5.0000%	20052	2.0052%
		Silica Crystalline	Proprietary	13.1080	5.0000%	20052	2.0052%
		Solvent naphtha	Proprietary	13.1080	5.0000%	20052	2.0052%
Solder Ball	External Plating	Sn	7440-31-5	57.1857	62.0000%	87479	8.7479%
		Pb	7439-92-1	33.2046	36.0000%	50794	5.0794%
		Ag	7440-22-4	1.8447	2.0000%	2822	0.2822%
Die Attach	Adhesive	Silver	7440-22-4	3.4317	75.0000%	5250	0.5250%
		Bismaleimide Resin	Proprietary	0.8007	17.4993%	1225	0.1225%
		Synthetic Resin	Proprietary	0.2288	5.0004%	350	0.0350%
		Additive	Proprietary	0.1144	2.5002%	175	0.0175%
Die	Circuit	Silicon	7440-21-3	21.4000	100.0000%	32736	3.2736%
Wire	Interconnect	Copper (Cu)	7440-50-8	3.7337	98.9998%	5712	0.5712%
		Palladium (Pd)	7440-05-3	0.0377	1.0002%	58	0.0058%
Mold Compound	Encapsulation	Silica, fused	60676-86-0	238.5300	88.4868%	364888	36.4888%
		Epoxy Resin	Proprietary	18.7600	6.9593%	28698	2.8698%
		Phenolic Resin	Proprietary	8.0400	2.9826%	12299	1.2299%
		Melamine Cyanurate	Proprietary	2.5957	0.9629%	3971	0.3971%
		Carbon Black	1333-86-4	1.6400	0.6084%	2509	0.2509%

**Package Weight (mg):** **653.7077**

**% 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.

## **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

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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 (15X17MM) NON PB-FREE PACKAGE MATERIAL DECLARATION  
DATASHEET  
Document Number: 001-06936

Rev.	ECN No.	Orig. of Change	Description of Change
**	428857	YXP	New specification
*A	2612288	VFR/ HLR	Changed Cypress logo. Added material declaration for Site 2. Changed CML to WEB in distribution list. Changed CAS number of Gold. Added CAS Number of Lead and Bromine. Added the %weight of homogenous on material composition table. Completed the RoHS substance on Indirect Material table.
*B	2882684	HLR	Removed the material name on assembly site 2.
*C	3290984	HLR	Added Assembly Site 3 - CML
*D	3554241	HLR	Updated Assembly Sites 1 and 2 to reflect 4 decimal places on values of material composition table.
*E	3606894	EBZ	Added package weight B2, and reference QTP # 120612 for assembly site 1. Added material composition table B2 using copper palladium for assembly site 1. Added package weight B2 and B3, added reference QTP # 120609 and 120610 for assembly site 3. Added material composition table B2 and B3 for assembly site 3.

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.