Freescale Semiconductor Inc

PART INFORMATION	
Mfg Item Number	MCF5480CZP166
Mfg Item Name	PBGA 388 27*27*2.25P1.0

SUPPLIER	
Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2016-03-05
Response Document ID	5367K00033D062A1.34
Contact Name	Freescale Semiconductor Inc
Contact Title	Product Technical Support
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Authorized Representative	Daniel Binyon
Representative Title	EPP Customer Response
Representative Phone	512-895-3406
Representative Email	eppanlst@freescale.com
URL for Additional Information	www.freescale.com

DECLARATION	
EU RoHS	No
Pb Free	No
HalogenFree	Yes
Plating Indicator	e0
EU RoHS Exemption(s)	

MANUFACTURING	
Mfg Item Number	MCF5480CZP166
Mfg Item Name	PBGA 388 27*27*2.25P1.0
Version	ALL
Weight	3.416700
UoM	g
Unit Volume	EACH
J-STD-020 MSL Rating	3
Peak Processing Temperature	220 C
Max Time at Peak Temperature	30 seconds
Number of Processing Cycles	3

RoHS	
RoHS Directive	2011/65/EU
RoHS Definition	RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) of homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material of Cadmium
RoHS Legal Definition	Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2011/65/EU and implemented by the laws of the European Union member states) of the part(s) identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a RoHS restricted substance) in excess of the applicable quantity limit identified below. If a homogeneous material within the part(s) contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components. Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part(s), and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part(s),the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Suppliers liability and the Companys remedies for issues that arise regarding information the Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Suppliers Standard Terms and Conditions of Sale applicable to such part(s) shall apply.
RoHS Declaration	3 - Item(s) does not contain RoHS restricted substances per the definition above except for lead in solders and selected exemptions, if any
Supplier Acceptance	Accepted
Signature	Daniel Binyon
Exemption List Version	2012/51/EU
List of Freescale Accepted Exemptions	6(a) : Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight 6(b) : Lead as an alloying element in aluminium containing up to 0.4% lead by weight 6(c) : Copper alloy containing up to 4% lead by weight 7(a) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead) 7(b) : Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications 7(c)-I : Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound 7(c)-II : Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher 7(c)-III : Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC 7(c)-IV : Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors 15 : Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages

MATERIAL COMPOSITION

Homogeneous Material	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%		ARTICLEPPM	ARTICLE%
Die Encapsulant	1.4578						g					
Die Encapsulant		Metals	Aluminum, metal	7429-90-5		0.04504019	g	30896	3.0896		13182	1.3182
Die Encapsulant		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.00000146	g	1	0.0001		0	0
Die Encapsulant		Cadmium/Cadmium Compounds	Cadmium	7440-43-9		0.00000146	g	1	0.0001		0	0
Die Encapsulant		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.04504019	g	30896	3.0896		13182	1.3182
Die Encapsulant		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.0045046	g	3090	0.309		1318	0.1318
Die Encapsulant		Lead/Lead Compounds	Lead	7439-92-1		0.00000146	g	1	0.0001		0	0
Die Encapsulant		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.0045046	g	3090	0.309		1318	0.1318
Die Encapsulant		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.08257271	g	56642	5.6642		24167	2.4167
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		1.27613333	g	875383	87.5383		373510	37.351
Epoxy Die Attach	0.0178						g					
Epoxy Die Attach		Solvents, additives, and other materials	1,3,5-Triazine-2,4-diamine, 6-[2-(2-methyl-1H-imidazol-1-yl)ethyl]	38668-46-1		0.00015043	g	8451	0.8451		44	0.0044
Epoxy Die Attach		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.00230651	g	129579	12.9579		675	0.0675
Epoxy Die Attach		Plastics/polymers	4,4'-Dihydroxydiphenyl	92-88-6		0.00015043	g	8451	0.8451		44	0.0044
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.01519263	g	853519	85.3519		4446	0.4446
Organic Substrate, Halogen-fre	1.3778						g					
Organic Substrate, Halogen-fre		Metals	Barium sulfate	7727-43-7		0.07668146	g	55655	5.5655		22443	2.2443
Organic Substrate, Halogen-fre		Metals	Copper, metal	7440-50-8		0.48566761	g	352495	35.2495		142145	14.2145
Organic Substrate, Halogen-fre		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.10375936	g	75308	7.5308		30368	3.0368
Organic Substrate, Halogen-fre		Metals	Gold, metal	7440-57-5		0.01946831	g	14130	1.413		5697	0.5697
Organic Substrate, Halogen-fre		Nickel (external applications only)	Nickel	7440-02-0		0.148542	g	107811	10.7811		43475	4.3475
Organic Substrate, Halogen-fre		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.17370614	g	126075	12.6075		50840	5.084
Organic Substrate, Halogen-fre		Glass	Silicon dioxide	7631-86-9		0.35928339	g	260766	26.0766		105155	10.5155
Organic Substrate, Halogen-fre		Solvents, additives, and other materials	Proprietary Material-Other Aromatic carbonyl compounds	-		0.01069173	g	7760	0.776		3129	0.3129
Solder Balls - Low Lead	0.5055						g					
Solder Balls - Low Lead		Lead/Lead Compounds	Lead	7439-92-1		0.18198	g	360000	36		53261	5.3261
Solder Balls - Low Lead		Metals	Silver, metal	7440-22-4		0.01011	g	20000	2		2958	0.2958
Solder Balls - Low Lead		Metals	Tin, metal	7440-31-5		0.31341	g	620000	62		91728	9.1728
Silicon Semiconductor Die	0.04						g					
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.0008	g	20000	2		234	0.0234
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.0392	g	980000	98		11473	1.1473
Bonding Wire, PdCu	0.0178						g					
Bonding Wire, PdCu		Metals	Copper, metal	7440-50-8		0.0174618	g	981000	98.1		5110	0.511
Bonding Wire, PdCu		Metals	Gold, metal	7440-57-5		0.0000178	g	1000	0.1		5	0.0005
Bonding Wire, PdCu		Metals	Palladium, metal	7440-05-3		0.0003204	g	18000	1.8		93	0.0093

LINKS	
MCD LINK	
NXP website	http://www.nxp.com
GENERAL ENVIRONMENTAL COMPLIANCE LINKS	
RoHS signed letter	http://www.nxp.com/files/corporate/doc/support_info/NXP-ROHS-DECLARATION.pdf
China RoHS	http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/china-rohs:ENV_CHINA_ROHS_STRATEGY
REACH signed letter	http://www.nxp.com/files/corporate/doc/support_info/NXP-REACH-STATEMENT.pdf
ELV signed letter	http://www.nxp.com/files/corporate/doc/support_info/NXP-ELV-STATEMENT.pdf
Conflict Minerals statement	http://www.nxp.com/files/corporate/doc/support_info/NXP-STATEMENT-CONFLICT-MINERALS.pdf
NXP ENVIRONMENTAL INFORMATION	
Environmental Compliance website	http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization:ABUENVPRFPRDX
FAQ	http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/eco-product-faqs:ENVIRON_FAQ
Technical Service Request	http://www.nxp.com/support/sales-and-support:SUPPORTHOME
LINKS TO BLANK IPC1752 FORMS	
Blank IPC1752 v1.1 Form	http://www.NXP.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf

IPC1752 XML LINKS

http://www.freescale.com/mcds/MCF5480CZP166_IPC1752_v11.xml

http://www.freescale.com/mcds/MCF5480CZP166_IPC1752A.xml