

PART INFORMATION		
Mfg Item Number	MCIMX27MOP4AR2	
Mfg Item Name	MAPBGA 473 19*19*.8P.8	
SUPPLIER		
Company Name	Freescale Semiconductor Inc	
Company Unique ID	14-141-7928	
Response Date	2015-07-31	
Response Document ID	5365K11153D017A1.30	
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	Yes	
Pb Free	Yes	
HalogenFree	Yes	
Plating Indicator	e1	
EU RoHS Exemption(s)		
MANUFACTURING		
Mfg Item Number	MCIMX27MOP4AR2	
Mfg Item Name	MAPBGA 473 19*19*.8P.8	
Version	ALL	
Weight	0.919400	
UoM	g	
Unit Volume	EACH	
J-STD-020 MSL Rating	3	
Peak Processing Temperature	260 C	
Max Time at Peak Temperature	40 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	1 - Item(s) do not contain RoHS restricted substances per the definition above
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%
Non-Conductive Epoxy/Adhesive	0.0038						g					
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.000285	g	75000	7.5		309	0.0309
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Crosslinked acrylate polymer	25767-43-5		0.00076	g	200000	20		826	0.0826
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other polymers	-		0.000285	g	75000	7.5		309	0.0309
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.00076	g	200000	20		826	0.0826
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.00171	g	450000	45		1859	0.1859
Solder Balls - Lead Free	0.122						g					
Solder Balls - Lead Free		Metals	Aluminum, metal	7429-90-5		0.00000061	g	5	0.0005		0	0
Solder Balls - Lead Free		Antimony/Antimony Compounds	Antimony (metallic)	7440-36-0		0.00000988	g	81	0.0081		10	0.001
Solder Balls - Lead Free		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.00000464	g	38	0.0038		5	0.0005
Solder Balls - Lead Free		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.00000476	g	39	0.0039		5	0.0005
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00061952	g	5078	0.5078		673	0.0673
Solder Balls - Lead Free		Solvents, additives, and other materials	Phosphorus, elemental (not containing red allotrope)	7723-14-0		0.00000488	g	40	0.004		5	0.0005
Solder Balls - Lead Free		Metals	Iron, metal	7439-89-6		0.00000415	g	34	0.0034		4	0.0004
Solder Balls - Lead Free		Lead/Lead Compounds	Lead	7439-92-1		0.00002733	g	224	0.0224		29	0.0029
Solder Balls - Lead Free		Nickel (external applications only)	Nickel	7440-02-0		0.00000476	g	39	0.0039		5	0.0005
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.00110154	g	9029	0.9029		1198	0.1198
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.12020903	g	985320	98.532		130747	13.0747
Solder Balls - Lead Free		Metals	Zinc, metal	7440-66-6		0.00000073	g	6	0.0006		0	0
Solder Balls - Lead Free		Metals	Germanium	7440-56-4		0.00000817	g	67	0.0067		8	0.0008
Die Encapsulant, Halogen-free	0.5163						g					
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Acrylonitrile/Butadiene copolymer, carboxyl terminated (2674)	68891-46-3		0.00025815	g	500	0.05		280	0.028
Die Encapsulant, Halogen-free		Metals	Proprietary Material-Other aluminum compounds	-		0.005163	g	10000	1		5615	0.5615
Die Encapsulant, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.0129075	g	25000	2.5		14039	1.4039
Die Encapsulant, Halogen-free		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.0129075	g	25000	2.5		14039	1.4039
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.0025815	g	5000	0.5		2807	0.2807
Die Encapsulant, Halogen-free		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.020652	g	40000	4		22462	2.2462
Die Encapsulant, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.10326	g	200000	20		112312	11.2312
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.35857035	g	694500	69.45		390023	39.0023
Bonding Wire, PdCu	0.0086						g					
Bonding Wire, PdCu		Metals	Copper, metal	7440-50-8		0.00849678	g	987998	98.7998		9241	0.9241
Bonding Wire, PdCu		Metals	Palladium, metal	7440-05-3		0.00010322	g	12002	1.2002		112	0.0112
Silicon Semiconductor Die	0.0239						g					
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000478	g	20000	2		519	0.0519
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.023422	g	980000	98		25475	2.5475
Substrate	0.2448						g					
Substrate		Metals	Barium sulfate	7727-43-7		0.0168655	g	68895	6.8895		18344	1.8344
Substrate		Metals	Copper, metal	7440-50-8		0.05750401	g	234902	23.4902		62545	6.2545
Substrate		Plastics/polymers	Epikote 862	28964-14-4		0.01946748	g	79524	7.9524		21174	2.1174
Substrate		Plastics/polymers	Formaldehyde, polymer with 2-methylphenol, glycidyl ether	64425-89-4		0.02612946	g	106738	10.6738		28420	2.842
Substrate		Metals	Gold, metal	7440-57-5		0.00101053	g	4128	0.4128		1099	0.1099
Substrate		Nickel (external applications only)	Nickel	7440-02-0		0.00789309	g	32243	3.2243		8585	0.8585
Substrate		Plastics/polymers	Phenol, polymer with formaldehyde	9003-35-4		0.01063117	g	43428	4.3428		11563	1.1563
Substrate		Glass	Fibrous-glass-wool	65997-17-3		0.00511582	g	265996	26.5996		70824	7.0824
Substrate		Glass	Silicon dioxide	7631-86-9		0.00558144	g	22800	2.28		6070	0.607
Substrate		Solvents, additives, and other materials	Other Aromatic carbonyl compounds	-		0.00270798	g	11062	1.1062		2945	0.2945
Substrate		Metals	Aluminum Hydroxide	21645-51-2		0.03189352	g	130284	13.0284		34689	3.4689

LINKS	
MCD LINK	
Freescall website	http://www.freescall.com
GENERAL ENVIRONMENTAL COMPLIANCE LINKS	
RoHS signed letter	http://www.freescall.com/files/abstract/corporate/ehs_epp/ENV_ROHS_Freescall_Response.pdf
China RoHS	http://www.freescall.com/chinarohs
REACH signed letter	http://www.freescall.com/files/abstract/corporate/ehs_epp/ENV_REACH_Freescall_Response.pdf
ELV signed letter	http://www.freescall.com/files/abstract/corporate/ehs_epp/ENV_ELV_Freescall_Reponse.pdf
Conflict Minerals statement	http://www.freescall.com/files/abstract/corporate/ehs_epp/ENV_CONFLICT_METAL_Freescall_Response.pdf
FREESCALE ENVIRONMENTAL INFORMATION	
EPP website	http://www.freescall.com/epp
FAQ	http://www.freescall.com/webapp/sps/site/overview.jsp?code=ENVIRON_FAQ
Technical Service Request	https://www.freescall.com/webapp/servicerequest.create_SR.framework?defaultCategory=Hardware Product Support&defaultTopic=Environmentally Preferred Prod
LINKS TO BLANK IPC1752 FORMS	
Blank IPC1752 v1.1 Form	http://www.freescall.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf

IPC1752 XML LINKS

http://www.freescale.com/mcds/MCIMX27MOP4AR2_IPC1752_v11.xml

http://www.freescale.com/mcds/MCIMX27MOP4AR2_IPC1752A.xml