

**PART INFORMATION**

Mfg Item Number	SPC5777MK0MVU8R
Mfg Item Name	TEPBGA 416 27*27*1.25 P1

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2017-07-20
Response Document ID	5252A1.12
Contact Name	Freescale Semiconductor Inc
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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	SPC5777MK0MVU8R
Mfg Item Name	TEPBGA 416 27*27*1.25 P1
Version	ALL
Weight	2.761150
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	<p>6(a) : Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight</p> <p>6(b) : Lead as an alloying element in aluminium containing up to 0.4% lead by weight</p> <p>6(c) : Copper alloy containing up to 4% lead by weight</p> <p>7(a) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)</p> <p>7(b) : Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications</p> <p>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</p> <p>7(c)-II : Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher</p> <p>7(c)-III : Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC</p> <p>7(c)-IV : Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors</p> <p>15 : Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages</p>

MATERIAL COMPOSITION

Homogeneous Material	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%	ARTICLEPPM	ARTICLE%
Epoxy Die Attach	0.0174	Solvents, additives, and other materials	1,3,5-Triazine-2,4-diamine, 6-[2-(2-methyl-1H-imidazol-1-yl)ethyl]	38668-46-1		0.00014705	g	8451	0.8451	53	0.0053
Epoxy Die Attach		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-95-5		0.0025467	g	129579	12.9579	816	0.0916
Epoxy Die Attach		Plastics/polymers	4,4-Dihydroxydiphenyl	92-88-6		0.00014705	g	8451	0.8451	53	0.0053
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.01485123	g	853519	85.3519	5378	0.5378
Solder Balts - Lead Free	0.3446	Antimony/Antimony Compounds	Antimony (metallic)	7440-36-0		0.00002041	g	7	0.0007	0	0
Solder Balts - Lead Free		Arsenic/Arsenic Compounds	Arsenic	7440-39-2		0.00002041	g	7	0.0007	0	0
Solder Balts - Lead Free		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.00001772	g	5	0.0005	0	0
Solder Balts - Lead Free		Metals	Copper, metal	7440-50-8		0.0024122	g	7000	0.7	873	0.0873
Solder Balts - Lead Free		Metals	Iron, metal	7439-89-6		0.0000962	g	18	0.0018	2	0.0002
Solder Balts - Lead Free		Lead/Lead Compounds	Lead	7439-92-1		0.0000193	g	96	0.0096	6	0.0006
Solder Balts - Lead Free		Metals	Silver, metal	7440-22-4		0.01296996	g	37600	3.76	4692	0.4692
Solder Balts - Lead Free		Metals	Tin, metal	7440-31-5		0.3291988	g	955307	95.5307	119225	11.9225
Die Encapsulant, Halogen-free	0.9633	Plastics/polymers	Other Epoxy resins	-		0.067798	g	60000	6	20932	2.0932
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.009633	g	10000	1	3488	0.3488
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Other inorganic compounds	-		0.019266	g	20000	2	6977	0.6977
Die Encapsulant, Halogen-free		Plastics/polymers	Other phenolic resins	-		0.048165	g	50000	5	17443	1.7443
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.828438	g	860000	86	300033	30.0033
Organic Substrate, Halogen-free	1.3877	Metals	Barium sulfate	7727-43-7		0.0167648	g	12081	1.2081	6071	0.6071
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.8317955	g	598962	59.8962	301045	30.1045
Organic Substrate, Halogen-free		Plastics/polymers	2,2'-(1,1-methylethylene)bis[4,1-phenyleneoxymethylene]bisoxirane	1675-54-3		0.00155839	g	1123	0.1123	564	0.0564
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.00186507	g	1344	0.1344	675	0.0675
Organic Substrate, Halogen-free		Metals	Talc	14807-96-6		0.00265606	g	1914	0.1914	961	0.0961
Organic Substrate, Halogen-free		Nickel (external applications only)	Nickel	7440-02-0		0.01289035	g	9289	0.9289	4668	0.4668
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Other organic compounds	-		0.00366492	g	2641	0.2641	1327	0.1327
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3		0.20390031	g	146934	14.6934	73846	7.3846
Organic Substrate, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.02501746	g	18028	1.8028	9060	0.906
Organic Substrate, Halogen-free		Plastics/polymers	Proprietary Material-Other acrylic/epoxy resin mixture	-		0.28247466	g	203556	20.3556	102303	10.2303
Organic Substrate, Halogen-free		Plastics/polymers	Proprietary Material-Urethane Polymers	-		0.00558827	g	4027	0.4027	2023	0.2023
Organic Substrate, Halogen-free		Metals	Copper phthalocyanine	147-14-8		0.00014016	g	101	0.0101	50	0.005
Bonding Wire, PdCu	0.0062	Metals	Copper, metal	7440-50-8		0.0060822	g	981000	98.1	2202	0.2202
Bonding Wire, PdCu		Metals	Gold, metal	7440-57-5		0.0000062	g	1000	0.1	2	0.0002
Bonding Wire, PdCu		Metals	Palladium, metal	7440-05-3		0.0001116	g	18000	1.8	40	0.004
Silicon Semiconductor Die	0.04195	Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000839	g	20000	2	303	0.0303
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.041111	g	980000	98	14889	1.4889

## LINKS

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

IPC1752 XML LINKS

[http://www.freescale.com/mcdfs/SPC5777MK0MVU8R\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/SPC5777MK0MVU8R_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/SPC5777MK0MVU8R\\_IPC1752A.xml](http://www.freescale.com/mcdfs/SPC5777MK0MVU8R_IPC1752A.xml)