



Materials Declaration Form

IPC Form Type *	1752 Distribute	Version	2
Sectionals *	Material Info Manufacturing Info	Subsectionals *	A-D <i>* : Required Field</i>

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2017-02-07
Contact Name *	Refer to "Supplier Comment" section	Contact Title	Refer to "Supplier Comment" section
Contact Phone *	Refer to "Supplier Comment" section	Contact Email *	Refer to "Supplier Comment" section
Authorized Representative *	Giovanni Giacobello	Representative Title	ADG MD Champion
Representative Phone *	Refer to "Supplier Comment" section	Representative Email *	Refer to "Supplier Comment" section
Supplier Comment	Online Technical Support - STMicroelectronics : http://www.st.com/internet/com/support/online_tech_support.jsp		

Uncertainty Statement

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Legal Statement		
Supplier Acceptance *	true	Legal Declaration *
		Standard

Legal Statement

Supplier certifies that it gathered the provided information and 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. 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 Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form.

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
Z0409MF 1AA2	SHTR*Z1G046S	A	Z45A	2017-02-07
Amount	UoM	Unit type	ST ECOPACK Grade	
866.48	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
NAC	NAC	NAC		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable ; if coating is used c	Tin (Sn), matte, annealed	Copper Alloy		



Package Designator	Size	Nbr of instances	Shape	
SIP	9.77X7.3X4.5	3	Through-hole	
Comment	Package: TO 202-3; MDF valid also for Z0409MF0AA2			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 2015	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	false
Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may apply)	false
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	true
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description
7c-1	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devi
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : REACH-12th January 2017				
Query				Response
The product does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration						Mfr Item Name		SHTR*Z1G046S					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)	
Silicon Die	Other inorganic materials	1.357	mg	supplier	Silicon die	Silicon (Si)	7440-21-3		1.259	mg	927782	1453	
Silicon Die				supplier	die metallization	Aluminium (Al)	7429-90-5		0.015	mg	11054	17	
Silicon Die				supplier	die metallization	Nickel (Ni)	7440-02-0		0.011	mg	8106	13	
Silicon Die				supplier	Die Passivation	Alumina	1344-28-1		0.007	mg	5158	8	
Silicon Die				supplier	Lead/Lead Compounds	Lead silicate Glass	65997-18-4	7c-1-Electrical and e	0.065	mg	47900	75	
Lead-frame	Copper & its alloys	258.827	mg	supplier	frame alloy	Copper (Cu)	7440-50-8		255.497	mg	987134	294866	
Lead-frame				supplier	frame alloy	Iron (Fe)	7439-89-6		0.256	mg	989	295	
Lead-frame				supplier	frame alloy	Iron Phosphide (FeP)	26508-33-8		0.076	mg	294	88	
Lead-frame				supplier	frame coating	Nickel (Ni)	7440-02-0		2.978	mg	11506	3437	
Lead-frame				supplier	frame coating	Phosphorus (P)	12185-10-3		0.02	mg	77	23	
Die Attach	Solder	0.629	mg	JIG R	Lead/Lead Compounds	Lead (Pb)	7439-92-1	7a-Lead in high me	0.602	mg	957075	695	
Die Attach				supplier	soft solder	Silver (Ag)	7440-22-4		0.015	mg	23847	17	
Die Attach				supplier	soft solder	Tin (Sn)	7440-31-5		0.012	mg	19078	14	
Bonding wire	Other inorganic materials	0.141	mg	supplier	Bonding wire	Aluminium (Al)	7440-90-5		0.141	mg	1000000	163	
Encapsulation	Other Organic Materials	605.247	mg	supplier	Moulding Compound	Silica	14808-60-7		456.217	mg	753770	526515	
Encapsulation				supplier	Moulding Compound	proprietary			94.314	mg	155827	108847	
Encapsulation				supplier	Moulding Compound	Epoxy Resin			51.674	mg	85377	59636	
Encapsulation				supplier	Moulding Compound	Phenol Resin	9003-35-4		3.042	mg	5026	3511	
Encapsulation				supplier	Moulding Compound	Carbon Black	1333-86-4		0.283	mg	1000000	327	
Finishing	Solder	0.283	mg	supplier	Connections coating	Tin (Sn)	7440-31-5						