



## Materials Declaration Form

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

Supplier Information			
<b>Company Name *</b>	<b>STMicroelectronics</b>	<b>Response Date *</b>	<b>2014-04-02</b>
<b>Contact Name *</b>	Refer to "Supplier Comment" section	<b>Contact Title</b>	Refer to "Supplier Comment" section
<b>Contact Phone *</b>	Refer to "Supplier Comment" section	<b>Contact Email *</b>	Refer to "Supplier Comment" section
<b>Authorized Representative *</b>	Arcidiacono Salvatore	<b>Representative Title</b>	IPG IPC Materials Declaration Champion
<b>Representative Phone *</b>	Refer to "Supplier Comment" section	<b>Representative Email *</b>	Refer to "Supplier Comment" section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/internet/com/support/online_tech_support.jsp">http://www.st.com/internet/com/support/online_tech_support.jsp</a>		

**Uncertainty Statement**

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**Legal Statement**

<b>Supplier Acceptance *</b>	<b>true</b>	<b>Legal Declaration *</b>	<b>Standard</b>
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**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
AST1S31HF	YY59*U1C7AA5	A	SA1A	2014-04-02
Amount	UoM	Unit type	ST ECOPACK Grade	
28.00	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	 life.augmented	
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable ; if coating is used o	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFN	3 x 3 x1	8 leads	No lead	
Comment				

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	true
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)	false
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

QueryList :REACH-19 December 2012				
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	YY59*U1C7AA5					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
die (s)	Other inorganic materials	1.686	mg	supplier	die	Silicon (Si)	7440-21-3		1.582	mg	938316	56500
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.019	mg	11269	679
die (s)				supplier	metallization	Tungsten (W)	7440-33-7		0.015	mg	8897	536
die (s)				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.004	mg	2372	143
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.033	mg	19573	1179
die (s)				supplier	passivation	Gamma-butyrolactone	96-48-0		0.011	mg	6524	393
die (s)				supplier	passivation	Polyhydroxyamide	55295-98-2		0.005	mg	2966	179
die (s)				supplier	back side metallization	Chromium (Cr)	7440-47-3		0.001	mg	593	36
die (s)				supplier	back side metallization	Gold (Au)	7440-57-5		0.004	mg	2372	143
die (s)				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.011	mg	6524	393
die (s)				supplier	back side metallization	Vanadium (V)	7440-62-2		0.001	mg	593	36
Leadframe	Copper & its alloys	9.6	mg	supplier	alloy	Copper (Cu)	7440-50-8		9.315	mg	970313	332679
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.219	mg	22813	7821
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.013	mg	1354	464
Leadframe				supplier	alloy	Zinc (Zn)	7440-66-6		0.011	mg	1146	393
Leadframe				supplier	metallization	Nickel (Ni)	7440-02-0		0.039	mg	4063	1393
Leadframe				supplier	metallization	Palladium (Pd)	7440-05-3		0.002	mg	208	71
Leadframe				supplier	metallization	Gold (Au)	7440-57-5		0.001	mg	104	36
Die attach	Other inorganic materials	0.557	mg	supplier	glue or tape	Silver (Ag)	7440-22-4		0.38	mg	682226	13571
Die attach				supplier	glue or tape	methylene diacrylate	42594-17-2		0.139	mg	249551	4964
Die attach				supplier	glue or tape	Dicyclopentenylxyethyl methacrylate	68586-19-6		0.017	mg	30521	607
Die attach				supplier	glue or tape	Polymer of Polybutadiene + Anhydride	Proprietary		0.017	mg	30521	607
Die attach				supplier	glue or tape	Palladium (Pd)	7440-05-3		0.001	mg	1795	36
Die attach				supplier	glue or tape	Bis(α,α-dimethylbenzyl) peroxide	80-43-3		0.003	mg	5386	107
Bonding wire	Precious metals	0.195	mg	supplier	wire	Gold (Au)	7440-57-5		0.195	mg	1000000	6964
encapsulation	Other Organic Materials	15.962	mg	supplier	mold compound	Silica, vitreous	60676-86-0		14.78	mg	925949	527857
encapsulation				supplier	mold compound	epoxy resin	85954-11-6		0.639	mg	40033	22821
encapsulation				supplier	mold compound	phenol resin	26834-02-6		0.479	mg	30009	17107
encapsulation				supplier	mold compound	carbon black	1333-86-4		0.064	mg	4010	2286