



## Materials Declaration Form

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

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2016-03-16
<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>	Floriana San Biagio	<b>Representative Title</b>	AMG 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>	true	<b>Legal Declaration *</b>	Standard
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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
	HYWY*UY31ABA	A	ZS1A	2016-03-16
Amount	UoM	Unit type	ST ECOPACK Grade	
16.375	mg	Each	ECOPACK® 3	

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	
SOT	2.9x 1.6x 1.05	5	gull wing	
Comment	Package: WY SOT 23-5; MDF valdi for TSX9291ILT			

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-17th December 2015				
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	HWY*UY31ABA					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	Other inorganic materials	0.665	mg	supplier	die	Silicon (Si)	7440-21-3		0.638	mg	959398	38962
Die				supplier	Passivation	Silicon Nitride	12033-89-5		0.002	mg	3008	122
Die				supplier	Passivation	Silicon Oxide	7631-86-9		0.015	mg	22556	916
Die				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.01	mg	15038	611
Leadframe	Other inorganic materials	7.189	mg	supplier	alloy	Copper (Cu)	7440-50-8		6.925	mg	963277	422901
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.162	mg	22534	9893
Leadframe				supplier	alloy	Phosphorus (P)	7723-14-0		0.002	mg	278	122
Leadframe				supplier	alloy	Zinc (Zn)	7440-66-6		0.009	mg	1252	550
Leadframe	Nickel (Ni)			supplier	metallization	Nickel (Ni)	7440-02-0		0.083	mg	11545	5069
Leadframe	Precious metals			supplier	metallization	Palladium (Pd)	7440-05-3		0.007	mg	974	427
Leadframe	Precious metals			supplier	metallization	Iron (Fe)	7439-89-6		0.001	mg	139	61
Die Attach	Other Organic Materials	0.07	mg	supplier	glue	Aluminium oxide	1344-28-1		0.021	mg	300000	1282
Die Attach				supplier	glue	Iron Phosphide (Fe2P)	1310-43-6		0.028	mg	400000	1710
Die Attach				supplier	glue	Epoxy resin	25068-38-6		0.005	mg	71429	305
Die Attach				supplier	glue	Epoxy resin	Proprietary		0.014	mg	200000	855
Die Attach				supplier	glue	Aromatic amine	Proprietary		0.002	mg	28571	122
Bonding wire	Precious metals	0.15	mg	supplier	wire	Gold (Au)	7440-57-5		0.15	mg	1000000	9160
encapsulation	Other Organic Materials	8.303	mg	supplier	mold compound	Epoxy Resin-1	Proprietary		0.249	mg	29989	15206
encapsulation				supplier	mold compound	Epoxy Resin-2	Proprietary		0.249	mg	29989	15206
encapsulation				supplier	mold compound	Phenol resin	Proprietary		0.374	mg	45044	22840
encapsulation				supplier	mold compound	Silica	60676-86-0		7.248	mg	872937	442626
encapsulation				supplier	mold compound	Carbon Black	1333-86-4		0.017	mg	2047	1038
encapsulation				supplier	mold compound	Others	Proprietary		0.166	mg	19993	10137