



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 *	2018-04-20
Company Unique ID	NL 008751171801		
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	Contact Email *	Refer to Supplier Comment section
Authorized Representative *	Floriana SAN BIAGIO	Representative Title	AMS 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/web/en/support/support.html		

Uncertainty Statement

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Legal Statement

Supplier Acceptance *	true	Legal Declaration *	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
	MF39*U1F9AB5	A	Z8GA	2018-04-20
Amount	UoM	Unit type	ST ECOPACK Grade	
52	mg	Each	ECOPACK® 2	
	Comment	ECOPACK® 2 is STMicroelectronics trade name for ROHS compliant device without Brominated and Chlorinated compound (900ppm) and without Antimony oxide flame retardant (in each organic material)		

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	Tin (Sn), matte, annealed	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	4.5x2.45x1.5	4	gull wing	
Comment	39 SOT 89; MDF valid for LDK320ADU33R			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 2015	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	TRUE
2 - 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
3 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	FALSE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	FALSE
Exemption Id.	Description

QueryList : REACH-15th January 2018				
Query				Response
1 - Product(s) 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 : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	MF39*U1F9AB5				6000000.0	999995.0
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	0.520	mg	supplier	die	Silicon (Si)	7440-21-3		0.496	mg	953846	9538
				supplier	metallization	Aluminium (Al)	7429-90-5		0.005	mg	9615	96
				supplier	metallization	Tungsten (W)	7440-33-7		0.004	mg	7692	77
				supplier	Passivation	Silicon Nitride	12033-89-5		0.001	mg	1923	19
				supplier	Passivation	Silicon Oxide	7631-86-9		0.009	mg	17308	173
				supplier	polymer die coating	PIIX1 Gamma-butyrolactone	96-48-0		0.005	mg	9615	96
Leadframe	M-004 Copper and its alloys	26.965	mg	supplier	alloy	Copper (Cu)	7440-50-8		25.808	mg	957093	496308
				supplier	alloy	Iron (Fe)	7439-89-6		0.028	mg	1038	538
				supplier	alloy	Phosphorus (P)	7723-14-0		0.009	mg	334	173
				JIG - R	alloy	Lead (Pb)	7439-92-1		0.001	mg	37	19
				supplier	alloy	Nickel (Ni)	7440-02-0		1.119	mg	41498	21519
Die Attach	M-015 Other organic materials	0.087	mg	supplier	glue	Aluminum Oxide	1344-28-1		0.070	mg	804598	1346
				supplier	glue	Epoxy Resin A	29690-82-2		0.006	mg	68966	115
				supplier	glue	Epoxy Resin B	9003-36-5		0.004	mg	45977	77
				supplier	glue	Diluent A	Proprietary		0.004	mg	45977	77
				supplier	glue	Diluent B	Proprietary		0.001	mg	11494	19
				supplier	glue	Phenolic Hardener	Proprietary		0.001	mg	11494	19
Bonding wires	M-008 Precious metals	0.057	mg	supplier	wire	Gold (Au)	7440-57-5		0.057	mg	1000000	1096
				supplier	mold compound	Epoxy Resin A	Proprietary		0.465	mg	19984	8942
				supplier	mold compound	Epoxy Resin B	29690-82-2		1.201	mg	51614	23096
				supplier	mold compound	Phenol Resin	25068-38-6		0.240	mg	10314	4615
Encapsulation	M-015 Other organic materials	23.269	mg	supplier	mold compound	Silica (Amorphous) A	60676-86-0		19.922	mg	856161	383115
				supplier	mold compound	Silica (Amorphous) B	7631-86-9		1.201	mg	51614	23096
				supplier	mold compound	Carbon Black	1333-86-4		0.240	mg	10314	4615
				supplier	connection coating	Tin (Sn)	7440-31-5		1.102	mg	1000000	21192
Finishing	M-011 Other inorganic materials	1.102	mg	supplier	connection coating	Tin (Sn)	7440-31-5		1.102	mg	1000000	21192