



Materials Declaration Form

IPC Form Type *	1752 Distribute	Version	2
Sectionals *	Material Info Manufacturing Info	Subsectionals *	A-D

** : Required Field*

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2020-03-24
Company Unique ID	NL 008751171B01		
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 *	Antonella Lanzafame	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
LDK320M33R	RVVV*U1F9AB5	A	ZS1A	2020-03-24
	Amount	UoM	Unit type	ST ECOPACK Grade
	16	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	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy	0	

Package Designator	Size	Nbr of instances	Shape	
dso	2.80.91.5	0	gull wing	
Comment	WV SOT 23 5L			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 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 : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	TRUE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	FALSE
Exemption Id.	Description

QueryList : California Prop65 list, dated 3rd January 2020			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product

QueryList : REACH-16th January 2020				
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
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				TRUE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material

QueryList : Korea Chemical Control Act_ 27 Dec 2017 update				
Query				Response
The Product does contain at least one of the substances listed in Chemical Control Act				NO
Substance	Homogeneous Material impacted	Content in Homogeneous Material (mg)	Concentration in the material(%)	Application Purpose

Material Composition Declaration :						Mfr Item Name	RVWV*U1F9AB5				8579277.0	1000006.0
note : Substance present with less 0.001mg will not be declared in this document												
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die or dies	M-011 Other inorganic materials	0.436	mg	supplier	die	Silicon(Si)	7440-21-3		0.417	mg	956422	26063
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.005	mg	11468	313
				supplier	metallisation	Tungsten(W)	7440-33-7		0.004	mg	9174	250
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.001	mg	2294	63
				supplier	passivation	Silicon oxide	7631-86-9		0.009	mg	20642	563
Leadframe	Copper & its alloys	6.861	mg	supplier	alloy	Copper (Cu)	7440-50-8		6.709	mg	963798	419313
				supplier	alloy	Zinc (Zn)	7439-89-6		0.154	mg	22123	9625
				supplier	alloy	Iron (Fe)	12185-10-3		0.002	mg	287	125
				supplier	alloy	Phosphorus (P)	12185-10-3		0.009	mg	1293	563
				supplier	metallization	Silver (Ag)	7440-02-0		0.079	mg	11349	4938
				supplier	metallization	Tin (Sn)	7440-05-3		0.007	mg	1006	438
				supplier	metallization	Lead (Pb)	7439-92-1		0.001	mg	144	63
Die attach	Other Organic Materials	0.064	mg	supplier	glue	Silver (Ag)	7440-22-4		0.044	mg	687500	2750
				supplier	glue	methylene diacrylate	42594-17-2		0.016	mg	250000	1000
				supplier	glue	Dicyclopentenylmethacrylate	29690-82-2		0.002	mg	31250	125
				supplier	glue	Polymer of Polybutadiene + Anhydride	Proprietary		0.002	mg	31250	125
Bonding wire	Other Organic Materials	0.143	mg	supplier	wire	Tin (Sn)	7440-50-8		0.143	mg	20543	8938
Encapsulation	Other Organic Materials	7.985	mg	supplier	molding compound	Silica, vitreous	60676-86-0		7.590	mg	904002	474375
				supplier	molding compound	phenolic resin	29690-82-2		0.294	mg	4593750	18375
				supplier	molding compound	epoxy resin	25068-38-6		0.327	mg	38947	20438
				supplier	molding compound	Biphenyl epoxy resin	85954-11-6		0.168	mg	20010	10500
				supplier	molding compound	carbon black	1333-86-4		0.017	mg	2025	1063