



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 *	2018-09-06
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 *	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

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
	RVWX*M431ACF	A	ZS1A	2018-09-06
Amount	UoM	Unit type	ST ECOPACK Grade	
10	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		
Not Applicable	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.90X1.30X0.95	3	gull wing	
Comment	WX SOT 23 3 LDS; MDF valid for TL1431ACL3T			

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-27th June 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	RVWX*M431ACF				4999999.0	1000120.0
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	0.309	mg	supplier	die	Silicon (Si)	7440-21-3		0.302	mg	977346	30200
				supplier	metallization	Aluminium (Al)	7429-90-5		0.003	mg	9709	300
				supplier	Passivation	Silicon Nitride	12033-89-5		0.002	mg	6472	200
				supplier	Passivation	Silicon Oxide	7631-86-9		0.002	mg	6472	200
				supplier	alloy	Copper (Cu)	7440-50-8		2.263	mg	963389	226300
Leadframe	M-004 Copper and its alloys	2.349	mg	supplier	alloy	Iron (Fe)	7439-89-6		0.053	mg	22563	5300
				supplier	alloy	Phosphorus (P)	7723-14-0		0.001	mg	426	100
				supplier	alloy	Zinc (Zn)	7440-66-6		0.003	mg	1277	300
				supplier	metallization	Nickel (Ni)	7440-02-0		0.027	mg	11494	2700
				supplier	metallization	Palladium (Pd)	7440-05-3		0.002	mg	851	200
Die attach	M-015 Other organic materials	0.030	mg	supplier	glue	Silver (Ag)	7440-22-4		0.000	mg	9934	30
				supplier	glue	Carbocyclic Acrylates	Proprietary		0.009	mg	298013	900
				supplier	glue	Bismaleimide resin	35325-39-4		0.012	mg	397351	1200
				supplier	glue	2-preponic acid, 2-methyl	68586-19-6		0.002	mg	66225	200
				supplier	glue	Additive	Proprietary		0.006	mg	198675	600
Bonding wires	M-011 Other inorganic materials	0.100	mg	supplier	wire	Copper (Cu)	7440-50-8		0.098	mg	982500	9825
				supplier	wire	Palladium (Pd)	7440-05-3		0.002	mg	17500	175
				supplier	wire	Palladium (Pd)	7440-05-3		0.002	mg	17500	175
Encapsulation	M-011 Other inorganic materials	7.213	mg	supplier	mold compound	Solid Epoxy Resin-1	29690-82-2		0.144	mg	19964	14400
				supplier	mold compound	Solid Epoxy Resin-2	Proprietary		0.144	mg	19964	14400
				supplier	mold compound	Phenol resin	25068-38-6		0.289	mg	40067	28900
				supplier	mold compound	Amorphous Silica	60676-86-0		6.420	mg	890060	642000
				supplier	mold compound	Carbon Black	1333-86-4		0.036	mg	4991	3600
				supplier	mold compound	Crystalline silica	14808-60-7		0.180	mg	24955	18000