



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 *	2019-07-31
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 *	Giovanni Giacopello	Representative Title	ADG 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
STD20NF20	XMDP*MM2GB6F	A	998G	2019-07-31
	Amount	UoM	Unit type	ST ECOPACK Grade
	330	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	
SIP	6.5,6.1,2.3	3	gull wing	
Comment	Package: TO 252 DPAK			

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	FALSE
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
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
8e	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			TRUE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			FALSE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.16	Die - Leadframe	476
Lead	1.75	Soft solder	5312

QueryList : REACH-16th July 2019				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead	1000 ppm	1.75	Soft solder	5312
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				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead	1000 ppm	1.75	Soft solder	1753000

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	XMDP*MMZGB6F					
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	7.896	mg	supplier	die	Silicon (Si)	7440-21-3		7.582	mg	960233	22976
				supplier	metallization	Aluminium (Al)	7429-90-5		0.151	mg	19124	458
				supplier	Passivation	Silicon Nitride	12033-89-5		0.036	mg	4559	109
				supplier	Passivation	Silicon Oxide	7631-86-9		0.053	mg	6712	161
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.004	mg	506	12
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.052	mg	6586	158
Leadframe	M-004 Copper and its alloys	197.217	mg	supplier	alloy	Silver (Ag)	7440-22-4		0.018	mg	2280	55
				supplier	alloy	Copper(CU)	7440-50-8		182.617	mg	998229	553385
				supplier	alloy	Tin(Sn)	7440-31-5		0.219	mg	1197	664
Soft solder	Solder	1.978	mg	supplier	alloy	Nickel	7440-02-0		0.105	mg	574	318
				supplier	solder	Tin(Sn)	7440-31-5		0.036	mg	19629	109
				supplier	solder	Silver(Ag)	7440-22-4		0.045	mg	24537	136
				supplier	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	1.753	mg	955834	5312
Bonding wire	M-003 Aluminum and its alloys	0.957	mg	supplier	wire	Aluminium(Al)	84195-93-7		0.888	mg	1000000	2691
Encapsulation	Other Organic Materials	144.062	mg	supplier	mold compound	Epoxy Resin	25068-38-6		4.009	mg	30000	12148
				supplier	mold compound	2,2'-(3,3',5,5'-tetramethyl-1,1'-biphenyl)-4,4'	EC 413-900-7		5.346	mg	40004	16200
				supplier	mold compound	phenol resin	29690-82-2		6.682	mg	50002	20248
				supplier	mold compound	Silica, vitreous	60676-86-0		116.930	mg	874995	354333
Finishing	Solder	3.025	mg	supplier	mold compound	Carbon black	1333-86-4		0.668	mg	4999	2024
				supplier	solder alloy	Tin(Sn)	7440-31-5		2.806	mg	1000000	8503