



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 *	2020-06-28
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
MASTERGAN1	2NB0*MY1QA3A	A	Z7GA	2020-06-28
	Amount	UoM	Unit type	ST ECOPACK Grade
	178.25	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
3	260	3		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Package Size	Nbr of instances	Shape	
QFN	919	31	Flat	
Comment	VFQFPN 9X9X1.0 31L PITCH 0.6mm			

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)	true
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Exemption Id.	Description
7c-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound

QueryList : ELV directive : 2000/53/EC amended 2020/363_March 2020	
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
10a	Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound. This exemption does not cover the use of lead in: — glass in bulbs and glaze of spark plugs, — dielectric ceramic materials of components listed under 10(b), 10(c) and 10(d)

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
Nickel	2.22	alloy	12471
Lead	0.01	resister	45
Lead-Borate Glass	0.04	resister	247

QueryList : REACH-25th June 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				false
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				false
Substance	Homogeneous Material impacted	Content in Homogeneous Material (mg)	Concentration in the material(%)	Application Purpose

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	ZNB0*MY1Q43A				8000000.0	1000000.0	
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)	
Dies	M-011 Other inorganic materials	8.017	mg	supplier	die	Silicon(Si)	7440-21-3		7.504	mg	936011	42098	
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.136	mg	16964	763	
				supplier	metallisation	Chromium(Cr)	7440-47-3		0.003	mg	374	17	
				supplier	metallisation	Gallium nitride	25617-97-4		0.200	mg	24947	1122	
				supplier	metallisation	Gold(Au)	7440-57-5		0.007	mg	873	39	
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.014	mg	1746	79	
				supplier	metallisation	Tungsten(W)	7440-33-7		0.030	mg	3742	168	
				supplier	metallisation	Vanadium(V)	7440-62-2		0.001	mg	125	6	
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.026	mg	3243	146	
				supplier	passivation	Silicon oxide	7631-86-9		0.096	mg	11975	539	
Leadframe	M-004 Copper and its alloys	75.373	mg	supplier	alloy & coating	Copper(Cu)	7440-50-8		72.600	mg	963210	407293	
				supplier	alloy & coating	Nickel(Ni)	7440-02-0		2.165	mg	28724	12146	
				supplier	alloy & coating	Zinc(Zn)	7440-66-6		0.136	mg	1804	763	
				supplier	alloy & coating	Tin(Sn)	7440-31-5		0.183	mg	2428	1027	
				supplier	alloy & coating	Chromium (Cr)	7440-47-3		0.195	mg	2587	1094	
				supplier	alloy & coating	Palladium(Pd)	7440-05-3		0.072	mg	955	404	
				supplier	alloy & coating	Gold(Au)	7440-57-5		0.022	mg	292	123	
Die attach	M-011 Other inorganic materials	8.637	mg	supplier	Glue	Silver	7440-22-4		7.000	mg	810467	39271	
	M-015 Other organic materials			supplier	Glue	Diluent	Proprietary		0.259	mg	29987	1453	
				supplier	Glue	Epoxy	Proprietary		0.259	mg	29987	1453	
				supplier	Glue	Hardener	Proprietary		0.259	mg	29987	1453	
				supplier	Glue	Pheno/ formaldehyde resin	9003-35-4		0.430	mg	49786	2412	
				supplier	Glue	1,6-hexanediol diglycidyl ether	16096-31-4		0.430	mg	49786	2412	
Die attach 2	Solder	3.314	mg	supplier	solder	Tin(Sn)	7440-31-5		3.200	mg	965601	17952	
				supplier	solder	Silver(Ag)	7440-22-4		0.099	mg	29873	555	
				supplier	solder	Copper(Cu)	7440-50-8		0.015	mg	4526	84	
Bonding wires	M-004 Copper and its alloys	0.936	mg	supplier	wire	Copper(Cu)	7440-50-8		0.915	mg	977564	5133	
				supplier	wire	Palladium(Pd)	7440-05-3		0.019	mg	20299	107	
				supplier	wire	Gold(Au)	7440-57-5		0.002	mg	2137	11	
Encapsulation	M-011 Other inorganic materials	67.001	mg	supplier	mold compound	Epoxy resin	Proprietary		3.360	mg	50149	18850	
				supplier	mold compound	Phenol resin	Proprietary		1.810	mg	27015	10154	
				supplier	mold compound	Silica, vitreous	60676-86-0		58.270	mg	869687	326900	
				supplier	mold compound	Amorphous silica	7631-86-9		3.360	mg	50149	18850	
				supplier	mold compound	Carbon black	1333-86-4		0.201	mg	3000	1128	
Mold insulation	Other Organic Materials	14.193	mg	supplier	Molding insulation	Silica	60676-86-0		10.645	mg	750018	59719	
				supplier	Molding insulation	Epoxy resin	85954-11-6		2.129	mg	150004	11944	
				supplier	Molding insulation	Phenolic resin	9003-35-4		1.405	mg	98992	7882	
				supplier	Molding insulation	carbon black	1333-86-4		0.014	mg	986	79	
Resistors	Other inorganic materials	0.779	mg	supplier	Resistor	Aluminum oxide	1344-28-1		0.595	mg	763798	3338	
				supplier	Resistor	Nickel(Ni)	7440-02-0		0.044	mg	56483	247	
				supplier	Resistor	Tin(Sn)	7440-31-5		0.044	mg	56483	247	
				supplier	Resistor	Silver(Ag)	7440-22-4		0.044	mg	56483	247	
				supplier	JG-R & California 65	Resistor	Glass and metal oxides	65997-18-4		0.044	mg	56483	247
				supplier	SVHC	Resistor	Lead oxide	1317-36-8		0.008	mg	10270	45