STRIVE FOR EXCELLENCE

Material declaration form

General Information			
IPC	1752	Version	2
Form type*	Distribute		
Sectionals*	Material information	Subsectionals*	A-D
	Manufacturing information	*: Required Field*	

Supplier Information			
Company name*	STMicroelectronics	Response Date*	2023-02-23
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	ADGMaterial Declaration 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

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.

Signature Not Verified

Digitally signed by giovanni giacopello
Date: 2023.02.24 07:53:37 +01:00

Product				
Mfr item number	Mfr item name	Version	Manufacturing site	date
M1F45M12W2-1LA	11ES*S100TC2	A	3068	2023-02-23
	Amount	Unit of measure	Unit type	ST ECOPACK grade
	13000.00	mg	Each	ECOPACK® 2
Identity	**Authority**			
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 temperature	Number of reflow cycles		
Not Applicable	245	Not Applicable		
Bulk solder termination	Terminal plating	Terminal base alloy	Comment	
Not Applicable	Tin (Sn), matte, annealed	Copper Alloy	DM00879268	
Package designator	Package size	Number of instances	Shape	
DSO	44x27.4x5.7	32	Through-hole	
Comment	ACEPACK DMT-32			

QueryList : RoHS Directive 2011/65/EU- 8 June 2011 – Annex II amended by Delegated Directive 2015/863 - 31 March 2015	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 2020/363_March 2020	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 25th Feb 2022			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	6.009	die - leadframe	462

QueryList : REACH-17 Jan 2023				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 : Responsible metals sourcing	Response
The component is containing at least one of the following metals : Cobalt , Gold , Tantalum , Tin , Tungsten.	true
The following metals are present is the component :	**Cobalt, Tin,**

QueryList : Korea Chemical Control Act_ 27 Dec 2017 update	Response
The Product does contain at least one of the substances listed in Chemical Control Act	false

QueryList : China GB 33372-2020 Limit standard for volatile organic compounds content in adhesives - 4 March 2020 application date 1st December 2020	Response
The product contains adhesives identified under GB 33372	false

Stockholm Convention Persistent Organic Pollutants	Response
Product is compliant with Stockholm Convention Persistent Organic Pollutants Annex I	true

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						**Mfr Item Name**	**11ES*S100TC2**					
Homogeneous material	**Material group**	**Mass**	**Unit of measure**	**Level**	**Substance category**	**Substance**	**CAS**	**Exempt**	**Mass**	**Unit of measure**	**Concentration in homogeneous material (ppm)**	**Concentration in product (ppm)**
Die	M-011 Other inorganic materials	31.641	mg	supplier	die	Silicium carbide	409-21-2		30.046	mg	949591	2311
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.548	mg	17319	42
				supplier	metallisation	Silicon(Si)	7440-21-3		0.033	mg	1043	3
				supplier	metallisation	Copper(Cu)	7440-50-8		0.075	mg	2370	6
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.270	mg	8533	21
				supplier	metallisation	Silver(Ag)	7440-22-4		0.399	mg	12610	31
				supplier	metallisation	Titanium(Ti)	7440-32-6		0.041	mg	1296	3
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.087	mg	2750	7
				supplier	passivation	Silicon oxide	7631-86-9		0.142	mg	4488	11
Leadframe	M-004 Copper and its alloys	2365.604	mg	supplier	alloy	Copper(Cu)	7440-50-8		2356.696	mg	996235	181284
				supplier	alloy	Iron(Fe)	7439-89-6		2.360	mg	998	182
				supplier	alloy	Iron phosphide	26508-33-8		0.708	mg	299	54
				supplier	metallization	Nickel (Ni)	7440-02-0		5.723	mg	2419	440
				supplier	metallization	Phosphorus (P)	7723-14-0		0.117	mg	49	9
Soft solder	Solder	11.674	mg	supplier	solder	Tin(Sn)	7440-31-5		11.152	mg	955286	858
				supplier	solder	Silver(Ag)	7440-22-4		0.405	mg	34692	31
				supplier	solder	flux residue	proprietary		0.117	mg	10022	9
Bonding wires	M-003 Aluminum and its alloys	10.638	mg	supplier	wire	Aluminium (Al)	7429-90-5		10.638	mg	1000000	818
Bonding wires 2	M-003 Aluminum and its alloys	0.205	mg	supplier	wire	Aluminium (Al)	7429-90-5		0.204	mg	995122	16
				supplier	wire	Magnesium (Mg)	7439-95-4		0.001	mg	4878	0
Encapsulation	M-011 Other inorganic materials	8094.848	mg	supplier	mold compound	Silica(Amorphous) A	60676-86-0		5666.394	mg	700000	435876
				supplier	mold compound	Silica(Amorphous) B	7631-86-9		809.485	mg	100000	62268
				supplier	mold compound	Carbon Black	1333-86-4		80.949	mg	10000	6227
				supplier	mold compound	Epoxy resin	25068-38-6		728.536	mg	90000	56041
				supplier	mold compound	Phenol resin	29690-82-2		404.742	mg	50000	31134
				supplier	mold compound	Organosilicon Compound	Proprietary		404.742	mg	50000	31134
Connections coating	Solder	38.293	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		38.293	mg	1000000	2946
Ceramic	M-010 Ceramics / glass	2447.000	mg	supplier	ceramic	Copper	7440-50-8		1657.353	mg	677300	127489
				supplier	connections	Ceramic_AlN	24304-00-5		789.647	mg	322700	60742
NTC	M-010 Ceramics / glass	0.097	mg	supplier	ceramic	Manganese Oxide	1317-35-7		0.057	mg	587629	4
				supplier	ceramic	Nickel Oxide	1313-99-1		0.015	mg	154639	1
				supplier	ceramic	Cobalt oxide	1308-06-1		0.013	mg	134021	1
				supplier	metallization	Silver-glass	7440-22-4		0.008	mg	82474	1
				supplier	metallization	Palladium	7440-05-3		0.001	mg	10309	0
				supplier	metallization	Nickel	7440-02-0		0.001	mg	10309	0
				supplier	metallization	Tin	7440-31-5		0.002	mg	20619	0