



## Material declaration form

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

Supplier Information			
Company name*	STMicroelectronics	Response Date*	2023-10-11
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 : <a href="http://www.st.com/web/en/support/support.html">http://www.st.com/web/en/support/support.html</a>		

**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.			



Product				
Mfr item number	Mfr item name	Version	Manufacturing site	date
A2F20M65W3-FC	0245*BF0807P	A	995Y	2023-10-11
	Amount	Unit of measure	Unit type	ST ECOPACK grade
	42000.00	mg	Each	ECOPACK® 1
<b>Identity</b>	<b>Authority</b>			
Comment	ECOPACK® or ECOPACK® 1 is STMicroelectronics trade name for ROHS compliant devices			

Manufacturing information				
J-STD-020 MSL rating	Classification temperature	Number of reflow cycles		
Not Applicable	Not Applicable	,		
Bulk solder termination	Terminal plating	Terminal base alloy	Comment	
Not Applicable	Tin (Sn), matte, annealed	Copper Alloy	DM00918527	
Package designator	Package size	Number of instances	Shape	
CHP	48.00x12.00x56.70	32	Pin	
Comment	ACEPACK 2			

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		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-1	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		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	
10(a)	10(a) - 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 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	31.068	die - pin - ntc - resistors - capacitor	740
Lead-Borate Glass	0.040	ntc - resistors	1
Antimony trioxide	426.200	housing	10148

QueryList : REACH-14th June 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 :	<b>Cobalt, Tin,</b>

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

QueryList : EUSRR Directive	Response
Product contains hazardous materials listed in EUSRR Annex II	True
The material present in the product is:	Lead

PFAS/PTFE Restriction	Response
Product contains Per- and Polyfluorinated Substance	False

BPA Restriction	Response
Product contains Bisphenol A (Isopropylidenediphenol)	False

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	0245'BF0807P									
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)				
Dies	M-011 Other inorganic materials	34.204	mg	supplier	die	Silicium carbide	409-21-2		31.710	mg	927083	754				
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.578	mg	16899	14				
				supplier	metallisation	Silicon(Si)	7440-21-3		0.138	mg	4035	3				
				supplier	metallisation	Copper(Cu)	7440-50-8		0.079	mg	2310	2				
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.496	mg	14501	12				
				supplier	metallisation	Silver(Ag)	7440-22-4		0.507	mg	14823	12				
				supplier	metallisation	Titanium(Ti)	7440-32-6		0.060	mg	1754	1				
				supplier	metallisation	Vanadium(V)	7440-62-2		0.016	mg	468	0				
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.092	mg	2690	2				
				supplier	passivation	Silicon oxide	7631-86-9		0.151	mg	4415	4				
				supplier	polymer coating	polyimide	proprietary		0.377	mg	11022	9				
				DBC	M-004 Copper and its alloys	11399.169	mg	supplier	alloy	Alumina Oxide	1344-28-1		2968.594	mg	260422	70681
supplier	alloy	Silica Oxide	14808-60-7						77.307	mg	6782	1841				
supplier	alloy	Magnesium Oxide	1309-48-4						46.384	mg	4069	1104				
supplier	alloy	Copper	7440-50-8						8306.884	mg	728727	197783				
supplier	alloy	Copper (Cu)	7440-50-8						1215.782	mg	838470	28947				
Pin	M-004 Copper and its alloys	1450.003	mg	supplier	alloy	Iron (Fe)	7439-89-6		77.604	mg	53520	1848				
				supplier	alloy	Nickel (Ni)	7440-02-0		1.494	mg	1030	36				
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		3.074	mg	2120	73				
				supplier	alloy	Zinc (Zn)	7440-66-6		1.494	mg	1030	36				
				supplier	alloy	Tin (Sn)	7440-31-5		119.930	mg	82710	2855				
				supplier	metallization	Carbon ©	7440-44-0		0.131	mg	90	3				
				supplier	metallization	Nickel (Ni)	7440-02-0		14.515	mg	10010	346				
				supplier	metallization	Tin (Sn)	7440-31-5		15.979	mg	11020	380				
				supplier	alloy	Copper (Cu)	7440-50-8		385.400	mg	940000	9176				
Pin Holder	M-004 Copper and its alloys	410.000	mg	supplier	alloy	Tin (Sn)	7440-31-5		24.600	mg	60000	586				
				supplier	glue	Silicone adhesive	Proprietary		970.000	mg	1000000	23095				
Die attach	M-015 Other organic materials	970.000	mg	supplier	glue	Silicone adhesive	Proprietary		970.000	mg	1000000	23095				
Soft solder	Solder	40.000	mg	supplier	solder	Copper (Cu)	7440-50-8		0.471	mg	11775	11				
				supplier	solder	Tin (Sn)	7440-31-5		38.353	mg	958825	913				
				supplier	solder	Silver (Ag)	7440-22-4		1.176	mg	29400	28				
Bonding wires	M-003 Aluminum and its alloys	47.501	mg	supplier	wire	Aluminium (Al)	7429-90-5		47.501	mg	1000000	1131				
Filler	M-015 Other organic materials	6202.852	mg	supplier	resin	silicon gel A	Proprietary		3101.426	mg	500000	73843				
				supplier	resin	silicon gel B	Proprietary		3101.426	mg	500000	73843				
Housing	M-011 Other inorganic materials	21310.000	mg	supplier	case	Polybutylene terephthalate (PBT)	30965-26-5		10335.350	mg	485000	246080				
				supplier	case	Polyethylene terephthalate	25038-59-9		10228.800	mg	480000	243543				
				supplier	case	Antimony trioxide	1309-64-4		426.200	mg	20000	10148				
				supplier	case	Brominated flame retardant	proprietary		319.650	mg	15000	7611				
				supplier	ceramic	Manganese oxide	1313-13-9		6.188	mg	343778	147				
NTC	M-010 Ceramics / glass	18.000	mg	supplier	ceramic	Nickel oxide	1313-99-1		2.857	mg	158722	68				
				supplier	ceramic	Iron(III) oxide	1309-37-1		3.015	mg	167500	72				
				supplier	ceramic	Cobalt oxide	1308-06-1		3.015	mg	167500	72				
				supplier	ceramic	Aluminium oxide	1344-28-1		0.794	mg	44111	19				
				supplier	metallization	Nickel (Ni)	7440-02-0		0.117	mg	6500	3				
				supplier	metallization	Tin (Sn)	7440-31-5		0.351	mg	19500	8				
				supplier	metallization	Palladium(Pd)	7440-05-3		0.389	mg	21611	9				
				supplier	metallization	Silver (Ag)	7440-22-4		1.204	mg	66889	29				
				JIG-R & California 65	glass	Lead-Borate Glass	65997-18-4	7c-I-Electrical and electronic co	0.016	mg	889	0				
				supplier	glass	Silicon dioxide	7631-86-9		0.054	mg	3000	1				
				Resistors	Solder	2.472	mg	supplier	ceramics	Aluminium oxide	1344-28-1		2.131	mg	862054	51
								supplier	ceramics	Quartz	14808-60-7		0.044	mg	17799	1
supplier	ceramics	Magnesium oxide	1309-48-4						0.044	mg	17799	1				
supplier	alloy	Silver (Ag)	7440-22-4						0.033	mg	13350	1				
supplier	ceramics	Ruthenium oxide	12036-10-1						0.011	mg	4450	0				
JIG-R & California 65	ceramics	Lead-Borate Glass	65997-18-4					7c-I-Electrical and electronic co	0.024	mg	9709	1				
supplier	metallization	Nickel (Ni)	7440-02-0						0.103	mg	41667	2				
supplier	metallization	Tin (Sn)	7440-31-5						0.054	mg	21845	1				
Capacitor	M-010 Ceramics / glass	115.799	mg	supplier	resin	Epoxy resin	25068-38-6		0.028	mg	11327	1				
				supplier	ceramic	Barium (Ba)	7440-39-3		56.727	mg	489875	1351				
				supplier	ceramic	Oxygen (O)	7782-44-7		23.793	mg	205468	567				



			supplier	ceramic	Titanium (Ti)	7440-32-6		19.808	mg	171055	472
			supplier	ceramic	Nickel (Ni)	7440-02-0		11.252	mg	97168	268
			supplier	alloy	Copper(Cu)	7440-50-8		3.399	mg	29353	81
			supplier	alloy	Nickel (Ni)	7440-02-0		0.234	mg	2021	6
			supplier	alloy	Tin (Sn)	7440-31-5		0.586	mg	5060	14