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*	2025-07-07
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*	MDG CHAMPION	Representative title	MDGMaterial 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.			

Product				
Mfr item number	Mfr item name	Version	Manufacturing site	date
STM32F412ZET7	531A*441XXXC	A	9998	2025-07-07
	Amount	Unit of measure	Unit type	ST ECOPACK grade
	1352	mg	Each	ECOPACK® 2

Manufacturing information				
J-STD-020 MSL rating	Classification temperature	Number of reflow cycles		
3	260	3		
Bulk solder termination	Terminal plating	Terminal base alloy	Comment	
Not Applicable	Tin (Sn), matte, annealed	Copper Alloy	0	
Package designator	Package size	Number of instances	Shape	
QFP	20x20	144	Gull wing	
Comment	Package : 1A LQFP 144 20X20X1.4 2 0099183			

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 : REACH-21st January 2025				**Response**
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
,	#N/A			

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						**Mfr Item Name**	**531A*441XXXC**		1352.3927		6000000.0	1000000.0
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 or dies	M-011 Other inorganic materials	13.483	mg	supplier	die	Silicon (Si)	7440-21-3		12.810	mg	950080	9472.26
				supplier	metallization	Aluminium (Al)	7429-90-5		0.032	mg	2396	23.89
				supplier	metallization	Copper (Cu)	7440-50-8		0.284	mg	21066	210.03
				supplier	metallization	Cobalt (Co)	7440-48-4		0.001	mg	100	1.00
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.092	mg	6789	67.69
				supplier	metallization	Titanium (Ti)	7440-32-6		0.004	mg	300	2.99
				supplier	metallization	Tungsten (W)	7440-33-7		0.003	mg	200	1.99
				supplier	Passivation	Silicon Nitride	12033-89-5		0.073	mg	5391	53.75
				supplier	Passivation	Silicon Oxide	7631-86-9		0.184	mg	13678	136.37
Leadframe (C194 + Ag plating)	Copper and its alloy	288.010	mg	supplier	alloy	Copper (Cu)	7440-50-8		270.787	mg	940200.1648	200228.26
				supplier	alloy	Iron (Fe)	7439-89-6		6.527	mg	22661.23474	4826.01
				supplier	alloy	Zinc (Zn)	7440-66-6		0.333	mg	1157.169434	246.43
				supplier	alloy	Metallic Phosphorus (P)	7723-14-0		0.083	mg	289.2923584	61.61
				supplier	coating	Silver (Ag)	7440-22-4		10.280	mg	35692.13868	7601.12
Glue epoxy (3230)	M-011 Other inorganic materials	0.616	mg	supplier	glue	Silver (Ag)	7440-22-4		0.472	mg	766500	349.35
				supplier	glue	2,2'-[Methylenebis(phenyleneoxymethylene)]biso	39817-09-9		0.046	mg	75000	34.18
				supplier	glue	Organic anhydride	26544-38-7		0.046	mg	75000	34.18
				supplier	glue	1,3-Di-2-propenyl-2- (2-propenyloxy) benzene, ep	Proprietary		0.018	mg	30000	13.67
				supplier	glue	Epoxide	3234-28-4		0.018	mg	30000	13.67
				supplier	glue	1,4-Bis(2,3-epoxypropoxy)butane	2425-79-8		0.011	mg	17500	7.98
				supplier	glue	Copper oxide	1317-38-0		0.001	mg	1000	0.46
				supplier	glue	Maleic anhydride	108-31-6		0.003	mg	5000	2.28
Bonding Wire (Cu)	M-011 Other inorganic materials	1.787	mg	supplier	bonding wire	Copper (Cu)	7440-50-8		1.724	mg	964999.65	1274.96
				supplier	bonding wire	Palladium (Pd)	7440-05-3		0.054	mg	30000.3	39.64
				supplier	bonding wire	Gold (Au)	7440-57-5		0.009	mg	5000.050001	6.61
Encapsulation (EME-G631HQ)	M-011 Other inorganic materials	1041.641	mg	supplier	molding compound	Epoxy Resin A	Proprietary		10.416	mg	10000	7702.21
				supplier	molding compound	Epoxy Resin B	Proprietary		10.416	mg	10000	7702.21
				supplier	molding compound	Phenol Resin	Proprietary		52.082	mg	50000	38511.05
				supplier	molding compound	Silica(Amorphous) A	60676-86-0		854.146	mg	820000	631581.26
				supplier	molding compound	Silica(Amorphous) B	7631-86-9		104.164	mg	100000	77022.10
				supplier	molding compound	Carbon Black	1333-86-4		10.416	mg	10000	7702.21
Plating (Sn)	M-011 Other inorganic materials	6.855	mg	supplier	external plating	Tin (Sn)	7440-31-5		6.855	mg	1000000	5068.57