Materials Declaration Form

IPC	**1752**	**Version**	**2**
Form Type *	Distribute		
Sectionals *	Material Info Manufacturing Info	**Subsectionals ***	A-D ***** : Required Field*

Supplier Information			
Company Name *	STMicroelectronics	**Response Date ***	2022-09-13
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 Material 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

While STMicroelectronics has endeavored to provide information which is accurate and up to date, this document and its contents are provided on a strict 'as is' and 'as available' basis. STMicroelectronics disclaims all warranties, express or implied related to this document and its contents, including but not limited to implied warranties of completeness, truth, accuracy, merchantability, fitness for a particular purpose and non-infringement. ST shall have no responsibility and assumes no liability for any cost, loss or damage of any kind which could arise, directly or indirectly, from the use or inability to use this document and/or its contents.

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.

Signature Not
Verified

Digitally signed by
giovanni giacopello
Date: 2022.09.13
08:51:23 +02:00

Product				
Mfr Item Number	**Mfr Item Name**	**Version**	**Mfr Site**	**Date**
TN1605H-8G-TR	7AD1*PNN1608	A	3068	2022-09-13
	Amount	**UoM**	**Unit type**	**ST ECOPACK Grade**
	1380	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**		
1	245	3		
Bulk Solder Termination	**Terminal Plating**	**Terminal Base Alloy**	**Comment**	
Not Applicable	Tin (Sn), matte, annealed	Copper Alloy	-	

Package Designator	Package Size	Nbr of instances	Shape	
SIP	10.00x9.10x4.50	3	Gull wing	
Comment	D2PAK CLIP. MDF valid for CPs: TN1605H-8G,TN1605H-8G-TR			

QueryList : RoHS Directive 2011/65/EU- 8 June 2011 – Annex II amended by Delegated Directive 2015/863 - 31 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**
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)
7c-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic 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**
8(e)	8(e) - Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)
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 17th Dec 2021	
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	0.222	die	161
Lead	5.174	soft solder	3749
Lead-Borate Glass	1.031	die	747

QueryList : Chinese RoHS , references : SJT 11364 – 2014 and GBT 26572 – 2014	
Query	**Response**
1 - Product(s) requires marking for the presence of restricted substances and must be marked with an Environmental Protection Use Period under China's Measures for Administration of the control of pollution by Electronic Information Products	**true**
2 - Product(s) is eligible for marking with the e code under China's Measures for Administration of the control of pollution by Electronic Information Products	false

Hasardous substance				
Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Hexavalent Chromium (Cr VI)	PBB & PBDE
X	O	O	O	O
Dies,Soft solder				
Homogeneous Material(s) containing Lead				

QueryList : REACH-17 Jan 2022	
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	5.17	Soft solder	3749

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	5.17	Soft solder	920313

QueryList : Responsible metals sourcing	
Query	**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 :	**Gold, Tin,**
This product is in the scope of the responsible metals sourcing, its compliance is covered by our company processes .	

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**

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

Stockholm Convention Persistent Organic Pollutants	
Query	**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**	**7AD1*PNN1608**					
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	6.018	mg	supplier	die	Silicon(Si)	7440-21-3		4.703	mg	781490	3409
				supplier	metallisation	Gold(Au)	7440-57-5		0.024	mg	3988	17
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.222	mg	36889	161
				supplier	passivation	Silicon oxide	7631-86-9		0.038	mg	6314	28
				JIG-R & California 65	glass	Lead-BorateGlass	65997-18-4	7c-I-Electrical and electronic	1.031	mg	171319	747
Leadframe	M-004 Copper and its alloys	900.741	mg	supplier	alloy	Copper(Cu)	7440-50-8		899.840	mg	999000	652058
				supplier	alloy	Copper phosphorus	12517-41-8		0.901	mg	1000	653
Soft solder	Solder	5.622	mg	SVHC	solder	Lead(Pb)	7439-92-1	7a-Lead in high melting temper	5.174	mg	920314	3749
				supplier	solder	Silver(Ag)	7440-22-4		0.140	mg	24902	101
				supplier	solder	Tin(Sn)	7440-31-5		0.280	mg	49804	203
				supplier	solder	Flux residue	proprietary		0.028	mg	4980	20
Encapsulation	M-011 Other inorganic materials	429.680	mg	supplier	mold compound	Silica vitreous	60676-86-0		318.823	mg	742001	231031
				supplier	mold compound	Phenol resin	9003-35-4		21.484	mg	50000	15568
				supplier	mold compound	Epoxy Cresol Novolac	29690-82-2		47.265	mg	110000	34250
				supplier	mold compound	other	proprietary		38.671	mg	90000	28022
				supplier	mold compound	Carbon black	1333-86-4		3.437	mg	7999	2491
Connections coating	Solder	6.314	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		6.314	mg	1000000	4575
Trigger	M-004 Copper and its alloys	31.625	mg	supplier	alloy	Copper(Cu)	7440-50-8		31.625	mg	1000000	22917