



## Materials Declaration Form

<b>IPC Form Type *</b>	1752 Distribute	<b>Version</b>	2
<b>Sectionals *</b>	Material Info Manufacturing Info	<b>Subsectionals *</b>	A-D <i>* : Required Field</i>

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2020-09-08
<b>Company Unique ID</b>	NL 008751171B01		
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Contact Phone *</b>	Refer to Supplier Comment section	<b>Contact Email *</b>	Refer to Supplier Comment section
<b>Authorized Representative *</b>	Antonella Lanzafame	<b>Representative Title</b>	AMS MD CHAMPION
<b>Representative Phone *</b>	Refer to Supplier Comment section	<b>Representative Email *</b>	Refer to Supplier Comment section
<b>Supplier Comment</b>	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**

<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	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
TS461CLT	HYWY*0461AR6	A	ZS1A	2020-09-08
	Amount	UoM	Unit type	ST ECOPACK Grade
	16	mg	Each	ECOPACK® 3
Comment	ECOPACK® 3 is STMicroelectronics trade name for ROHS compliant device without use of any ROHS exemption and without Halogen nor Antimony			

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	
SOT	2.91.50.5	5	0	
Comment	WY SOT 23-5			

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	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	
Query	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 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	0.08	alloy	4945

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				true
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 :						Mfr Item Name	HYWY*0461AR6		16.4		4999998.0	999999.0
note : Substance present with less 0.001mg will not be declared in this document												
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die or dies	M-011 Other inorganic materials	0.594	mg	supplier	die	Silicon(Si)	7440-21-3		0.589	mg	991582	35958
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.002	mg	3367	122
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.002	mg	3367	122
				supplier	passivation	Silicon oxide	7631-86-9		0.001	mg	1684	61
				supplier	alloy	Copper (Cu)	7440-50-8		6.910	mg	950481	421856
Leadframe	M-004 Copper and its alloys	7.270	mg	supplier	alloy	Iron (Fe)	7439-89-6		0.260	mg	35763	15873
				supplier	alloy	Phosphorus (P)	12185-10-3		0.002	mg	275	122
				supplier	alloy	Zinc (Zn)	7440-66-6		0.009	mg	1238	549
				supplier	alloy	Nickel (Ni)	7440-02-0		0.081	mg	11142	4945
				supplier	alloy	Palladium (Pd)	7440-05-3		0.007	mg	963	427
				supplier	alloy	Gold (Au)	7440-57-5		0.001	mg	138	61
				supplier	alloy							
Die attach	Solder	0.070	mg	supplier	glue	Epoxyde Bisphenol A Resin	25068-38-6		0.020	mg	285714	1221
				supplier	glue	Aromatic amine	Proprietary		0.003	mg	42857	183
				supplier	glue	Glycol ether ester	Proprietary		0.003	mg	42857	183
				supplier	glue	silica	60676-86-0		0.021	mg	300000	1282
				supplier	glue	Aluminium oxide	1344-28-1		0.023	mg	328571	1404
Bonding wires	M-008 Precious metals	0.052	mg	supplier	wire	Gold (Au)	7440-57-5		0.052	mg	1000000	3175
Encapsulation	M-011 Other inorganic materials	8.394	mg	supplier	mold compound	Silica, vitreous	60676-86-0		7.250	mg	863712	442613
				supplier	mold compound	phenolic resin	Proprietary		0.270	mg	32186	16484
				supplier	mold compound	epoxy resin	Proprietary		0.325	mg	38718	19841
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.153	mg	18227	9341
				supplier	mold compound	carbon black	1333-86-4		0.015	mg	1787	916
				supplier	mold compound	Zinc hydroxide	20427-58-1		0.076	mg	9054	4640
				supplier	mold compound	Magnesium hydroxide	1309-42-8		0.305	mg	36335	18620