



## 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>	2018-06-26
<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>	Giovanni Giapello	<b>Representative Title</b>	ADG 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

**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
ECMF4-2450A60N10	ES6Z*ECMF2BA	A	996H	2018-06-26
	Amount	UoM	Unit type	ST ECOPACK Grade
	3.90	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		 life.augmented
1	260	3		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
CHP	2.2 - 1.35 - 0.5	10	No lead	
Comment	Package: DFN.22.135.05-040-10L			

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 2017/2096 _November 2017			
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 25th May 2018			
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	0.02	Die - Leadframe	4103

QueryList : REACH-15th January 2018				
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
-	-			0
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
-	-	0.00		

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	E62*ECMF2BA					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	0.259	mg	supplier	die	Silicon (Si)	7440-21-3		0.173	mg	667954	44359
				supplier	metallization	Aluminium (Al)	7429-90-5		0.003	mg	11583	769
				supplier	metallization	Copper (Cu)	7440-50-8		0.059	mg	227799	15128
				supplier	metallization	Gold (Au)	7440-57-5		0.002	mg	7722	515
				supplier	passivation	Nickel (Ni)	7440-02-0		0.003	mg	11583	769
				supplier	metallization	Titanium (Ti)	7440-32-6		0.005	mg	19305	1282
				supplier	Passivation	Silicon Oxide	7631-86-9		0.001	mg	3861	256
				supplier	glass coating	Glass: Silicon Dioxide	7631-86-9		0.002	mg	7722	513
				supplier	polymer die coating	Polymer resist - Benzocyclobutene (BCB)	694-87-1		0.011	mg	42471	2821
				Leadframe	M-004 Copper and its alloys	1.048	mg	supplier	alloy	Copper (Cu)	7440-50-8	
supplier	alloy	Iron (Fe)	7439-89-6						0.001	mg	954	256
supplier	alloy	Zinc (Zn)	7440-66-6						0.005	mg	4771	1282
supplier	metallization	Nickel (Ni)	7440-02-0						0.013	mg	12405	3333
supplier	metallization	Palladium (Pd)	7440-05-3						0.001	mg	954	256
supplier	tape	epoxy resin	25068-38-6						0.026	mg	634146	6667
Die attach	M-011 Other inorganic materials	0.041	mg	supplier	tape	Polypropylene	9003-07-0		0.001	mg	24390	256
				supplier	tape	epoxy resin	29690-82-2		0.004	mg	97562	1026
				supplier	tape	propenoate polymer	538311-13-6		0.008	mg	195122	2051
				supplier	tape	Diphenol Propane Diglycidyl Ether	1675-54-3		0.002	mg	48780	513
				supplier	glue	Silver (Ag)	7440-22-4		0.023	mg	851852	5897
Die attach 2	M-011 Other inorganic materials	0.027	mg	supplier	glue	Rubber modified epoxy	Proprietary		0.002	mg	74074	513
				supplier	glue	Ethoxyethoxy-ethyl Acetate	112-15-2		0.002	mg	74074	513
				supplier	wire	Gold (Au)	7440-57-5		0.061	mg	1000000	15641
Bonding wires	M-008 Precious metals	0.061	mg	supplier	wire	Gold (Au)	7440-57-5		0.061	mg	1000000	15641
				supplier	mold compound	Silica, vitreous	60676-86-0		2.308	mg	936688	591795
Encapsulation	M-011 Other inorganic materials	2.464	mg	supplier	mold compound	epoxy resin	85954-11-6		0.074	mg	30032	18974
				supplier	mold compound	phenol resin	26834-02-6		0.074	mg	30032	18974
				supplier	mold compound	Carbon Black	1333-86-4		0.008	mg	3248	2051