



## 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>	2016-01-14
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Authorized Representative *</b>	Giovanni Giacopello	<b>Representative Title</b>	IPD 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 omprehensive 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
ECMF4-20A42N10	ES6Z*ECMF28A	A	Z6HA	2016-01-14
Amount	UoM	Unit type	ST ECOPACK Grade	
5.00	mg	Each	ECOPACK® 2	

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	
NAC	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFN	1.35X2.2X0.5	12	No lead	
Comment	Package: DFN.22.135.05-040-10L			

QueryList : ROHS directive 2011/65/EU _ July 2011	
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
5 - Product(s) is obsolete, no information is available	false
6 - Product(s) is unknown, no information is available	false
Exemption Id.	Description

QueryList : REACH-17th December 2015				
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

Material Composition Declaration						Mfr Item Name	ES62*ECMF28A						
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 (choose)	Other inorganic materials	0.348	mg	supplier	die	Silicon (Si)	7440-21-3		0.243	mg	698276	48600	
				supplier	metallization	Aluminium (Al)	7429-90-5		0.005	mg	14368	1000	
				supplier	metallization	Copper (Cu)	7440-50-8		0.077	mg	221264	15400	
				supplier	metallization	Nickel (Ni)	7440-02-0		0.004	mg	11494	800	
				supplier	metallization	Gold (Au)	7440-57-5		0.002	mg	5747	400	
				supplier	Passivation	Silicon Oxide	7631-86-9		0.002	mg	5747	400	
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.001	mg	2874	200	
				supplier	polymer die coating	Polymer resist - Benzocyclobutene (BCB)	694-87-1		0.014	mg	40230	2800	
				supplier	alloy	Copper (Cu)	7440-50-8		1.028	mg	980916	205600	
				supplier	alloy	Iron (Fe)	7439-89-6		0.001	mg	954	200	
Leadframe	Copper & its alloys	1.048	mg	supplier	alloy	Zinc (Zn)	7440-66-6		0.005	mg	4771	1000	
				supplier	metallization	Nickel (Ni)	7440-02-0		0.013	mg	12405	2600	
				supplier	metallization	Palladium (Pd)	7440-05-3		0.001	mg	954	200	
				supplier	solder	Silver (Ag)	7440-22-4		0.021	mg	636364	4200	
				supplier	solder	2-(2-Ethoxyethoxy)ethyl acetate	112-15-2		0.002	mg	60606	400	
				supplier	mold compound	Proylene carbonate	108-32-7		0.002	mg	60606	400	
				supplier	mold compound	3,3-Diamino diphenyl sulfone	599-61-1		0.002	mg	60606	400	
				supplier	mold compound	Urethane acrylate oligomer	Proprietary		0.002	mg	60606	400	
				supplier	mold compound	Rubber modified epoxy	Proprietary		0.002	mg	60606	400	
				supplier	solder alloy	Epoxy resin	Proprietary		0.002	mg	60606	400	
Die attach 1	Other inorganic materials	0.033	mg	supplier	Connection coating	Aluminium oxide	1344-28-1		0.092	mg	308725	18400	
				supplier	Connection coating	Diethylene glycol monoethyl ether acetate	112-15-2		0.123	mg	412752	24600	
				supplier	Connection coating	Epoxy resin	25068-38-6		0.083	mg	278523	16600	
				supplier	wire	Gold (Au)	7440-57-5		0.061	mg	1000000	12200	
Die attach 2	Other inorganic materials	0.298	mg	supplier	Molding compound	Silica Fused	60676-86-0		3.010	mg	937111	602000	
				supplier	Molding compound	Epoxy Resin	Proprietary		0.096	mg	29888	19200	
				supplier	Molding compound	Phenol Resin	Proprietary		0.096	mg	29888	19200	
				supplier	Molding compound	Carbon Black	1333-86-4		0.010	mg	3113	2000	
Bonding wire encapsulation	Precious metals	0.061	mg	supplier	wire	Gold (Au)	7440-57-5		0.061	mg	1000000	12200	
				supplier	Molding compound	Silica Fused	60676-86-0		3.010	mg	937111	602000	
				supplier	Molding compound	Epoxy Resin	Proprietary		0.096	mg	29888	19200	