



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2018-05-24
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 *	Rossana Bonaccorso	Representative Title	ADG MD 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
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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
	TLDZ*B55356F	A	998G	2018-05-24
Amount	UoM	Unit type	ST ECOPACK Grade	
1900	mg	Each	ECOPACK2	
	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
NA	NA	NA		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	10-9.1-4.5	3	THROUGH HOLE	
Comment	Package: TO 220 AB NON ISOL - MDF valid for CPs: D44H8 - D44H11			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 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)

QueryList : California Prop65 list, dated 15th December 2017			
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	5.95	Die - Leadframe	3132
Lead	4.26	Soft solder	2244

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
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

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	TLDZ*B55356F					
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	9.392	mg	supplier	die	Silicon (Si)	7440-21-3		9.185	mg	977960	4834
				supplier	metallization	Aluminium (Al)	7429-90-5		0.096	mg	10221	51
				supplier	Passivation	Silicon Oxide	7631-86-9		0.066	mg	7027	35
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.002	mg	214	1
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.032	mg	3407	17
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.011	mg	1171	6
Leadframe	M-004 Copper and its alloys	1258.924	mg	supplier	alloy	Copper (Cu)	7440-50-8		1251.376	mg	994004	658619
				supplier	alloy	Iron (Fe)	7439-89-6		1.253	mg	995	658
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.376	mg	299	198
				supplier	metallization	Nickel (Ni)	7440-02-0		5.919	mg	4702	3115
Soft solder	Solder	4.464	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	4.263	mg	954973	2244
				supplier	solder	Silver (Ag)	7440-22-4		0.112	mg	25090	59
				supplier	solder	Tin (Sn)	7440-31-5		0.089	mg	19937	47
Bonding wires	M-011 Other inorganic materials	0.577	mg	supplier	wire	Aluminium (Al)	7429-90-5		0.577	mg	1000000	304
Encapsulation	M-011 Other inorganic materials	620.281	mg	supplier	mold compound	Silica, vitreous	60676-86-0		539.645	mg	870001	284024
				supplier	mold compound	Epoxy resin	25068-38-6		62.028	mg	100000	32646
				supplier	mold compound	Phenol resin	29690-82-2		15.507	mg	25000	8162
				supplier	mold compound	Carbon Black	1333-86-4		3.101	mg	4999	1632
Connections coating	Solder	6.362	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		6.362	mg	1000000	3348