



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 *	2018-01-31
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 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

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
TS820-600FP	7GUI*P1G086Q	A	3068	2018-01-31
Amount	UoM	Unit type	ST ECOPACK Grade	
1900	mg	Each	ECOPACK2	
	Comment	#N/A		

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	10.2-16.15-4.5	3	Through-hole	
Comment	TO 220 ISOL FULL PACK 0.5 AB			

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	0.69	Die - Leadframe	364
Lead	2.49	Soft solder	1313

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 :						Mfr Item Name	7GUI*P1G086Q					
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	M-011 Other inorganic materials	2.037	mg	supplier	die	Silicon (Si)	7440-21-3		1.977	mg	970545	1042
				supplier	metallization	Aluminium (Al)	7429-90-5		0.016	mg	7855	8
				supplier	Passivation	Silicon Oxide	7631-86-9		0.011	mg	5400	6
				supplier	back side metallization	Aluminium (Al)	7429-90-5		0.011	mg	5400	6
				supplier	back side metallization	Gold (Au)	7440-57-5		0.004	mg	1963	2
Leadframe	M-004 Copper and its alloys	605.985	mg	supplier	back side metallization	Nickel (Ni)	7440-02-0		0.018	mg	8837	9
				supplier	alloy	Copper (Cu)	7440-50-8		604.469	mg	997498	318142
				supplier	alloy	Iron (Fe)	7439-89-6		0.605	mg	999	318
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.182	mg	300	96
				supplier	metallization	Nickel (Ni)	7440-02-0		0.674	mg	1112	355
Soft solder	Solder	2.611	mg	supplier	metallization	Phosphorus (P)	7723-14-0		0.055	mg	91	29
				supplier	JIG - R solder	Lead (Pb)	7439-92-1	7a-Lead in high me	2.494	mg	955190	1313
				supplier	solder	Silver (Ag)	7440-22-4		0.065	mg	24895	34
				supplier	solder	Tin (Sn)	7440-31-5		0.052	mg	19915	27
Bonding wires	M-011 Other inorganic materials	1.471	mg	supplier	wire	Aluminium (Al)	7429-90-5		1.471	mg	1000000	774
Encapsulation	M-011 Other inorganic materials	1282.030	mg	supplier	mold compound	Quartz	14808-60-7		897.422	mg	700000	472327
				supplier	mold compound	Silica, vitreous	60676-86-0		96.152	mg	75000	50606
				supplier	mold compound	Epoxy resin	25068-38-6		179.484	mg	140000	94465
				supplier	mold compound	phenol resin	29690-82-2		89.742	mg	70000	47233
				supplier	mold compound	metal hydroxide	Proprietary		12.820	mg	10000	6747
supplier	mold compound	carbon black	1333-86-4		6.410	mg	5000	3374				
connections coating	Solder	5.866	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		5.866	mg	1000000	3087