



## 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>	2018-09-13
<b>Company Unique ID</b>	NL 008751171801		
<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>	Floriana SAN BIAGIO	<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
	B55F*QRGEBAL	A	ZR1A	2018-09-13
Amount	UoM	Unit type	ST ECOPACK Grade	
1731	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
3	245	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte, annealed	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFP	14x20x2.7	100	gull wing	
Comment	5F PQFP 100 14x20x2.7 1.6; MDF valid for SERC816 and SERC816TR			

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	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 : REACH-27th June 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

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	B55F*QRGEBAL				5999998.0	8999998.0
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	31.092	mg	supplier	die	Silicon (Si)	7440-21-3		30.312	mg	974913	17511
				supplier	metallization	Aluminium (Al)	7429-90-5		0.206	mg	6625	119
				supplier	metallization	Copper (Cu)	7440-50-8		0.003	mg	96	2
				supplier	metallization	Titanium (Ti)	7440-32-6		0.023	mg	740	13
				supplier	metallization	Tungsten (W)	7440-33-7		0.016	mg	515	9
				supplier	Passivation	Silicon Nitride	12033-89-5		0.058	mg	1865	34
Leadframe	M-004 Copper and its alloys	1011.964	mg	supplier	Passivation	Silicon Oxide	7631-86-9		0.474	mg	15245	274
				supplier	alloy	Nickel (Ni)	7440-02-0		30.359	mg	30000	17538
				supplier	alloy	Silicon (Si)	7440-21-3		10.120	mg	10000	5846
				supplier	alloy	Magnesium (Mg)	7439-95-4		1.518	mg	1500	877
				supplier	alloy	Silver (Ag)	7440-22-4		59.200	mg	58500	34200
				supplier	alloy	Copper (Cu)	7440-50-8		910.767	mg	899999	526151
Die attach	M-015 Other organic materials	9.102	mg	supplier	glue	Silver (Ag)	7440-22-4		8.192	mg	900022	4733
				supplier	glue	Isobornyl Methacrylate	7534-94-3		0.455	mg	49989	263
				supplier	glue	2,6-diglycidyl phenyl allyl ether	EC 417-470-1		0.455	mg	49989	263
				supplier	wire	Gold (Au)	7440-57-5		5.896	mg	1000000	3406
Encapsulation	M-015 Other organic materials	623.919	mg	supplier	mold compound	Silica Fused	60676-86-0		540.938	mg	867000	312500
				supplier	mold compound	Epoxy Resin	25068-38-6		46.793	mg	74999	27032
				supplier	mold compound	Phenol resin	29690-82-2		34.316	mg	55001	19824
connections coating	M-011 Other inorganic materials	49.026	mg	supplier	mold compound	Carbon Black	1333-86-4		1.872	mg	3000	1081
				supplier	Solder alloy	Tin (Sn)	7440-31-5		49.026	mg	1000000	28322