



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2017-06-29
Contact Name *	Refer to "Supplier Comment" section	Contact Title	Refer to "Supplier Comment" section
Contact Phone *	Refer to "Supplier Comment" section	Contact Email *	Refer to "Supplier Comment" section
Authorized Representative *	Patrick Crudo	Representative Title	MMS MD CHAMPION
Representative Phone *	(+33) 442 688 339	Representative Email *	patrick.crudo@st.com
Supplier Comment	Online Technical Support - STMicroelectronics : http://www.st.com/web/en/support/online_tech_support.html		


Uncertainty Statement

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Legal Statement

Supplier Acceptance *	true	Legal Declaration *	Standard
Legal Statement	<p>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.</p>		

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32L471VGT6	PA1L*415XXX4	A	9998	2017-06-29
	Amount	UoM	Unit type	ST ECOPACK Grade
	681.44	mg	Each	ECOPACK® 2

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
3	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable ; if coating is used or other bulk termination : add in comments	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFP	14x14x1.4	100	L bend	
Comment	Package: LQFP 100 14x14x1.4 1			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 2015	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	true
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
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	false
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description

QueryList : REACH-12th January 2017				
Query				Response
The product 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	PA1L*415XXX4					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
die (s)	Other inorganic materials	15.300	mg	supplier	die	Silicon (Si)	7440-21-3		14.731	mg	962810	21617
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.027	mg	1765	40
die (s)				supplier	metallization	Copper (Cu)	7440-50-8		0.242	mg	15817	355
die (s)				supplier	metallization	Tantalum (Ta)	7440-25-7		0.077	mg	5033	113
die (s)				supplier	metallization	Cobalt (Co)	7440-48-4		0.001	mg	65	1
die (s)				supplier	metallization	Titanium (Ti)	7440-32-6		0.003	mg	196	4
die (s)				supplier	metallization	Tungsten (W)	7440-33-7		0.002	mg	131	3
die (s)				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.061	mg	3987	90
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.156	mg	10196	229
LEADFRAME	Other inorganic materials	132.746	mg	supplier	ALLOY	Copper (Cu)	7440-50-8		127.215	mg	958334	186686
LEADFRAME				supplier	ALLOY	Chromium (Cr)	7440-47-3		0.385	mg	2900	565
LEADFRAME				supplier	ALLOY	Tin (Sn)	7440-31-5		0.320	mg	2411	470
LEADFRAME				supplier	ALLOY	Zinc (Zn)	7440-66-6		0.256	mg	1928	376
LEADFRAME				supplier	COATING	Nickel (Ni)	7440-02-0		4.431	mg	33380	6502
LEADFRAME				supplier	COATING	Palladium (Pd)	7440-05-3		0.094	mg	708	138
LEADFRAME				supplier	COATING	Gold (Au)	7440-57-5		0.045	mg	339	66
DIE ATTACH				supplier	GLUE	Silver(Ag)	7440-22-4		1.315	mg	700213	1930
DIE ATTACH		1.878	mg	supplier	GLUE	Epoxy resin A	9003-36-5		0.047	mg	25027	69
DIE ATTACH				supplier	GLUE	Epoxy resin B	proprietary		0.094	mg	50053	138
DIE ATTACH				supplier	GLUE	Allyl compound	proprietary		0.150	mg	79872	220
DIE ATTACH				supplier	GLUE	Silica	proprietary		0.141	mg	75080	207
DIE ATTACH				supplier	GLUE	Diluent	proprietary		0.131	mg	69755	192
BONDING WIRE				supplier	BONDING WIRE	Gold (Au)	7440-57-5		1.519	mg	990222	2229
BONDING WIRE				supplier	BONDING WIRE	Palladium (Pd)	7440-05-3		0.015	mg	9778	22
ENCAPSULATION				supplier	MOLDING COMPOUND	Epoxy resin	proprietary		53.599	mg	101279	78655
ENCAPSULATION	Other inorganic materials	529.223	mg	supplier	MOLDING COMPOUND	Silica (SiO3)	60676-86-0		443.465	mg	837955	650776
ENCAPSULATION				supplier	MOLDING COMPOUND	Carbon Black	1333-86-4		2.680	mg	5064	3933
ENCAPSULATION				supplier	MOLDING COMPOUND	Phenol Resin	proprietary		29.479	mg	55702	43260
FINISHING				supplier	CONNECTION COATING	Nickel (Ni)	7440-02-0		0.739	mg	973650	1084
FINISHING				supplier	CONNECTION COATING	Palladium (Pd)	7440-05-3		0.016	mg	21080	23
FINISHING				supplier	CONNECTION COATING	Gold (Au)	7440-57-5		0.004	mg	5270	6