



## Materials Declaration Form

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

Supplier Information			
<b>Company Name *</b>	<b>STMicroelectronics</b>	<b>Response Date *</b>	<b>2017-05-29</b>
<b>Contact Name *</b>	Refer to "Supplier Comment" section	<b>Contact Title</b>	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>	Patrick Crudo	<b>Representative Title</b>	MMS MD CHAMPION
<b>Representative Phone *</b>	(+33) 442 688 339	<b>Representative Email *</b>	<a href="mailto:patrick.crudo@st.com">patrick.crudo@st.com</a>
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/web/en/support/online_tech_support.html">http://www.st.com/web/en/support/online_tech_support.html</a>		

### Uncertainty Statement

While STMicroelectronics has endeavored to provide information which is accurate and up to date, this document and its contents are provided on a strict 'as is' and 'as available' basis. STMicroelectronics disclaims all warranties, express or implied related to this document and its contents, including but not limited to implied warranties of completeness, truth, accuracy, merchantability, fitness for a particular purpose and non-infringement. ST shall have no responsibility and assumes no liability for any cost, loss or damage of any kind which could arise, directly or indirectly, from the use or inability to use this document and/or its contents.


### Legal Statement

<b>Supplier Acceptance *</b>	<b>true</b>	<b>Legal Declaration *</b>	<b>Standard</b>
------------------------------	-------------	----------------------------	-----------------

### 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
STM8AL3166TCY	U05V*79HX21Z	A	959	2017-05-29
	Amount	UoM	Unit type	ST ECOPACK Grade
	180.00	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	
NAC	Nicke/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFP	7x7x1.4	32	L bend	
Comment	LQFP 32 7x7x1.4			

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	<b>true</b>
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				<b>true</b>
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration						Mfr Item Name	U05V*79HX21Z					
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	Other inorganic materials	4.520	mg	supplier	die	Silicon (Si)	7440-21-3		4.3670	mg	966150	24261
Die or Dies				supplier	metallization	Aluminium (Al)	7429-90-5		0.0120	mg	2655	67
Die or Dies				supplier	metallization	Copper (Cu)	7440-50-8		0.0400	mg	8850	222
Die or Dies				supplier	metallization	Tantalum (Ta)	7440-25-7		0.0190	mg	4204	106
Die or Dies				supplier	metallization	Titanium (Ti)	7440-32-6		0.0060	mg	1327	33
Die or Dies				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.0110	mg	2434	61
Die or Dies				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.0650	mg	14381	361
Lead-frame	Other inorganic materials	69.913	mg	supplier	alloy	Copper (Cu)	7440-50-8		67.2559	mg	962000	373644
Lead-frame				supplier	alloy	Nickel (Ni)	7440-02-0		2.0974	mg	30000	11652
Lead-frame				supplier	alloy	Silicium (Si)	7440-21-3		0.4544	mg	6500	2525
Lead-frame				supplier	alloy	Magnesium (Mg)	7439-95-4		0.1049	mg	1500	583
Lead-frame Coating	Other inorganic materials	0.403	mg	supplier	coating	Nickel (Ni)	7440-02-0		0.3687	mg	914840	2048
Lead-frame Coating				supplier	coating	Palladium (Pd)	7440-05-3		0.0120	mg	29660	66
Lead-frame Coating				supplier	coating	Gold (Au)	7440-57-5		0.0112	mg	27750	62
Lead-frame Coating				supplier	coating	Silver (Ag)	7440-22-4		0.0112	mg	27750	62
Die Attach	Other inorganic materials	1.061	mg	supplier	glue or soft solder	Silver (Ag)	7440-22-4		0.8172	mg	770000	4540
Die Attach				supplier	glue or soft solder	Epoxy Cresol Novolak	29690-82-2		0.2399	mg	226000	1333
Die Attach				supplier	glue or soft solder	1-isopropyl-2,2-dimethyltrimethylene diisobut	6846-50-0		0.0042	mg	4000	24
Wires	Other inorganic materials	0.645	mg	supplier	Bonding wire	Gold (Au)	7440-57-5		0.6447	mg	1000000	3581
Encapsulation	Other inorganic materials	103.456	mg	supplier	Moulding Compound	Solid Epoxy Resin	na		7.2522	mg	70100	40290
Encapsulation				supplier	Moulding Compound	Phenol Resin	na		5.1802	mg	50071	28779
Encapsulation				supplier	Moulding Compound	Silica, vitreous	60676-86-0		90.3500	mg	873320	501944
Encapsulation				supplier	Moulding Compound	Carbon-black	1333-86-4		0.5180	mg	5007	2878
Encapsulation				supplier	Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.1554	mg	1502	863
Finishing	Other inorganic materials	0.003	mg	supplier	connections coating	Nickel (Ni)	7440-02-0		0.0023	mg	914840	13
Finishing				supplier	connections coating	Palladium (Pd)	7440-05-3		0.0001	mg	29660	0
Finishing				supplier	connections coating	Gold (Au)	7440-57-5		0.0001	mg	27750	0
Finishing				supplier	connections coating	Silver (Ag)	7440-22-4		0.0001	mg	27750	0