



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 *	2018-10-09
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

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

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
STM32F412VEH3TR	P2MJ*441XXXC	A	9996	2018-10-09
Amount		UoM	Unit type	ST ECOPACK Grade
64.00		mg	Each	ECOPACK® 2

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
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	Tin (Sn), matte	Copper Alloy		



Package Designator	Size	Nbr of instances	Shape	
BGA	7x7x0.6	100	No lead	
Comment	Package: UFBGA 7x7x0.60 100L R12sq P0.5			

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	P2MJ*441XXXC					
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	2.990	mg	supplier	die	Silicon (Si)	7440-21-3		2.356	mg	787960	36813
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.044	mg	14716	688
die (s)				supplier	metallization	Copper (Cu)	7440-50-8		0.284	mg	94983	4438
die (s)				supplier	metallization	Tantalum (Ta)	7440-25-7		0.048	mg	16054	750
die (s)				supplier	metallization	Cobalt (Co)	7440-48-4		0.001	mg	334	16
die (s)				supplier	metallization	Tungsten (W)	7440-33-7		0.128	mg	42809	2000
die (s)				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.033	mg	11037	516
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.096	mg	32107	1500
SUBSTRATE	Other inorganic materials	24.361	mg	supplier	CORE	Organic resin	proprietary		1.654	mg	67895	25844
SUBSTRATE				supplier	CORE	Other inorganic filler	proprietary		1.869	mg	76721	29203
SUBSTRATE				supplier	CORE	Glass fiber	65997-17-3		3.667	mg	150527	57297
SUBSTRATE				supplier	SOLDERMASK	Organic resin	proprietary		3.802	mg	156069	59406
SUBSTRATE				supplier	SOLDERMASK	Inorganic filler	proprietary		2.047	mg	84028	31984
SUBSTRATE				supplier	CU FOIL	Copper (Cu)	7440-50-8		8.098	mg	332417	126531
SUBSTRATE				supplier	PLATING	Nickel (Ni)	7440-02-0		2.796	mg	114774	43688
SUBSTRATE				supplier	PLATING	Gold (Au)	7440-57-5		0.428	mg	17569	6688
DIE ATTACH	Other inorganic materials	0.551	mg	supplier	GLUE	Butadiene, acrylonitrile polymer, carboxy-terminated	68610-41-3		0.330	mg	598911	5156
DIE ATTACH				supplier	GLUE	Phenol polymer with formaldehyde, glycidyl ether	9003-35-4		0.055	mg	99819	859
DIE ATTACH				supplier	GLUE	Phenol-formaldehyde polymer	28064-14-4		0.055	mg	99819	859
DIE ATTACH				supplier	GLUE	Dapsone	80-08-0		0.055	mg	99819	859
DIE ATTACH				supplier	GLUE	Reaction product: bisphenol-A- (epichlorhydrin)	25068-38-6		0.006	mg	10889	94
DIE ATTACH				supplier	GLUE	Other Substances	proprietary		0.050	mg	90744	781
BONDING WIRE	Other inorganic materials	1.047	mg	supplier	BONDING WIRE	Gold (Au)	7440-57-5		1.047	mg	1000000	16359
SOLDERBALL	Other inorganic materials	3.109	mg	supplier	SOLDERBALL	Tin (Sn)	7440-31-5		3.000	mg	964940	46875
SOLDERBALL				supplier	SOLDERBALL	Silver (Ag)	7440-22-4		0.109	mg	35060	1703
ENCAPSULATION	Other inorganic materials	31.942	mg	supplier	MOLDING COMPOUND	Silica fused (SiO2)	60676-86-0		28.121	mg	880377	439391
ENCAPSULATION				supplier	MOLDING COMPOUND	Epoxy resin	proprietary		2.824	mg	88410	44125
ENCAPSULATION				supplier	MOLDING COMPOUND	Phenolic Resins	proprietary		0.831	mg	26016	12984
ENCAPSULATION				supplier	MOLDING COMPOUND	Carbon Black	1333-86-4		0.166	mg	5197	2594