



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 *	2018-03-07
Company Unique ID	NL 008751171801		
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 *	Floriana SAN BIAGIO	Representative Title	AMS 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

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
	1BND*UAL4ABA	A	ZW1A	2018-03-07
Amount	UoM	Unit type	ST ECOPACK Grade	
44	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
2a	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFN	4x4x1	24	flat	
Comment	ND VFQFPN 4x4x1.0 24 PITCH 0.5; MDF valid for STLD1			

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-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

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	1BND*UAL4ABA				4999998.0	1000001.0	
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	2.712	mg	supplier	die	Silicon (Si)	7440-21-3		2.631	mg	970133	59795	
				supplier	metallization	Aluminium (Al)	7429-90-5		0.020	mg	7375	455	
				supplier	metallization	Titanium (Ti)	7440-32-6		0.002	mg	737	45	
				supplier	metallization	Tungsten (W)	7440-33-7		0.002	mg	737	45	
				supplier	Passivation	Silicon Nitride	12033-89-5		0.005	mg	1844	114	
				supplier	Passivation	Silicon Oxide	7631-86-9		0.038	mg	14012	864	
				supplier	back side metallization	Chromium (Cr)	7440-47-3		0.002	mg	737	45	
				supplier	back side metallization	Gold (Au)	7440-57-5		0.004	mg	1475	91	
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.008	mg	2950	182	
				Leadframe	M-004 Copper and its alloys	23.640	mg	supplier	alloy	Copper (Cu)	7440-50-8		22.691
supplier	alloy	Iron (Fe)	7439-89-6						0.547	mg	23139	12432	
supplier	alloy	Phosphorus (P)	12185-10-3						0.007	mg	296	159	
supplier	alloy	Zinc (Zn)	7440-66-6						0.028	mg	1184	636	
supplier	metallization	Nickel (Ni)	7440-02-0						0.358	mg	15144	8136	
supplier	metallization	Palladium (Pd)	7440-05-3						0.008	mg	338	182	
supplier	metallization	Gold (Au)	7440-57-5			0.001	mg	42	23				
M-006 Nickel and its alloys	M-008 Precious metals	0.787	mg		supplier	glue	Proprietary Acrylates	proprietary		0.103	mg	130877	2341
					supplier	glue	Silver (Ag)	7440-22-4		0.630	mg	800508	14318
					supplier	glue	Proprietary Bismaleimide	35325-39-4		0.023	mg	29225	523
				supplier	glue	Methacrylate ester	proprietary		0.023	mg	29225	523	
supplier	glue	Proprietary polymer	proprietary		0.008	mg	10165	182					
Bonding wires	M-008 Precious metals	0.413	mg	supplier	wire	Gold (Au)	7440-57-5		0.413	mg	1000000	9386	
				supplier	mold compound	Epoxy resin	29690-82-2		0.823	mg	50036	18705	
Encapsulation	M-015 Other organic materials	16.448	mg	supplier	mold compound	Silica fused (SiO2)	60676-86-0		14.639	mg	890017	332705	
				supplier	mold compound	Phenol Resin	25068-38-6		0.494	mg	30034	11227	
				supplier	mold compound	Metal hydroxide	proprietary		0.459	mg	27906	10432	
				supplier	mold compound	Carbon Black	1333-86-4		0.033	mg	2006	750	