



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 *	2018-03-12
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

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Legal Statement

Supplier Acceptance *	true	Legal Declaration *	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
	MRWQ*UA20AA5	A	SA1A	2018-03-12
Amount	UoM	Unit type	ST ECOPACK Grade	
21	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
1	260	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	
QFN	3x3x1	10	flat	
Comment	WQ VDFPN 3x3x1.0 10 PITCH 0.50; MDF valid for STBB1-APUR			

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	MRWQ*UA20AAS				5999998.0	899952.0
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	1.757	mg	supplier	die	Silicon (Si)	7440-21-3		1.647	mg	937393	78429
				supplier	metallization	Aluminium (Al)	7429-90-5		0.020	mg	11383	952
				supplier	metallization	Tungsten (W)	7440-33-7		0.016	mg	9106	762
				supplier	Passivation	Silicon Nitride	12033-89-5		0.004	mg	2277	190
				supplier	Passivation	Silicon Oxide	7631-86-9		0.035	mg	19920	1667
				supplier	back side metallization	Chromium (Cr)	7440-47-3		0.002	mg	1138	95
				supplier	back side metallization	Gold (Au)	7440-57-5		0.004	mg	2277	190
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.008	mg	4553	381
Leadframe	M-004 Copper and its alloys	10.480	mg	supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.021	mg	11952	1000
				supplier	Alloy	Copper (Cu)	7440-50-8		10.123	mg	965935	482048
				supplier	Alloy	Iron (Fe)	7439-89-6		0.236	mg	22519	11238
				supplier	Alloy	Phosphorus (P)	7723-14-0		0.003	mg	286	143
				supplier	Alloy	Zinc (Zn)	7440-66-6		0.013	mg	1240	619
				supplier	Alloy	Silver (Ag)	7440-22-4		0.105	mg	10019	5000
Die attach	M-015 Other organic materials	0.029	mg	supplier	glue	Silver (Ag)	7440-22-4		0.025	mg	862069	1190
				supplier	glue	Carbocyclic acrylate	proprietary		0.003	mg	103448	143
				supplier	glue	2-Propenoic acid, 2-methyl-, 2-[(2,3,3a,4,7,7a)]	68586-19-6		0.001	mg	34483	48
Bonding wires	M-008 Precious metals	0.099	mg	supplier	Bonding wire	Gold (Au)	7440-57-4		0.099	mg	1000000	4714
Encapsulation	M-015 Other organic materials	8.504	mg	supplier	Bonding wire	Silica Fused	60676-86-0		7.968	mg	936971	379429
				supplier	Mold compound	Epoxy resin	29690-82-2		0.255	mg	29986	12143
				supplier	Mold compound	Phenol resin	25068-38-6		0.255	mg	29986	12143
				supplier	Mold compound	Carbon Black	1333-86-4		0.026	mg	3057	1238
Finishing	M-011 Other inorganic materials	0.130	mg	supplier	Connection coating	Tin (Sn)	7440-31-5		0.130	mg	1000000	6190