



Materials Declaration Form

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

*: Required Field

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2018-07-27
Contact Name *	Refer to Supplier Comment section	Contact Email *	Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	Authorized Representative *	Rossana Bonaccorso
Authorized Representative *	Rossana Bonaccorso	Representative Title	ADG 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
	RRVC*VH49BB4	A	0959	2018-07-27
Amount	UoM	Unit type	ST ECOPACK Grade	
488.00	mg	Each	ECOPACK2	
	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
3	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFP	10.3-7.5-2.28	36	gull wing	
Comment	Package: PwSSO36 DUAL CHIP - MDF for VNQ7004SYTR and VNQ7004SY			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 2015	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	FALSE
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)	TRUE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	FALSE
Exemption Id.	Description
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
8e	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : California Prop65 list, dated 25th May 2018			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.06	Die	115
Lead	8.82	Soft solder	18072

QueryList : REACH-27th June 2018				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead	1000 ppm	8.82	Soft solder	18072
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead	1000 ppm	8.82	Soft solder	974906

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	RRVC*VH49BB4									
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)				
Dies	M-011 Other inorganic materials	15.134	mg	supplier	die	Silicon (Si)	7440-21-3		13.954	mg	922030	28594				
				supplier	metallization	Aluminium (Al)	7429-90-5		0.257	mg	16982	527				
				supplier	metallization	Copper (Cu)	7440-50-8		0.096	mg	6343	197				
				supplier	metallization	Titanium (Ti)	7440-32-6		0.029	mg	1917	59				
				supplier	metallization	Tungsten (W)	7440-33-7		0.355	mg	23457	727				
				supplier	Passivation	Silicon Nitride	12033-89-5		0.011	mg	727	23				
				supplier	Passivation	Silicon Oxide	7631-86-9		0.182	mg	12026	373				
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.005	mg	330	10				
				supplier	back side metallization	Gold (Au)	7440-57-5		0.014	mg	925	29				
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.056	mg	3700	116				
				supplier	back side metallization	Vanadium (V)	7440-62-2		0.004	mg	264	8				
				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.171	mg	11299	350				
				Leadframe	M-004 Copper and its alloys	161.653	mg	supplier	alloy	Copper (Cu)	7440-50-8		159.255	mg	985166	326342
								supplier	alloy	Iron (Fe)	7439-89-6		0.160	mg	990	328
supplier	alloy	Iron Phosphide (FeP)	26508-33-8						0.048	mg	296	98				
Die attach		0.471	mg	supplier	metallization	Silver (Ag)	7440-22-4		2.190	mg	13548	4488				
				supplier	glue or tape	Acrylic resin	9003-01-4		0.297	mg	630573	609				
				supplier	glue or tape	epoxy resin	25068-38-6		0.174	mg	369427	357				
Soft solder	Solder	9.046	mg	SVHC	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	8.819	mg	974906	18072				
				supplier	solder	Silver (Ag)	7440-22-4		0.136	mg	15034	279				
				supplier	solder	Tin (Sn)	7440-31-5		0.091	mg	10060	186				
Bonding wires	M-011 Other inorganic materials	3.312	mg	supplier	wire	Copper (Cu)	7440-50-8		3.312	mg	1000000	6787				
				Encapsulation	M-011 Other inorganic materials	294.132	mg	supplier	mold compound	Silica, vitreous	60676-86-0		254.130	mg	864000	520758
								supplier	mold compound	Epoxy Resin	25068-38-6		22.060	mg	75000	45205
				supplier	mold compound	Phenol Resin	29690-82-2		14.707	mg	50001	30137				
				supplier	mold compound	3-Mercaptopropyl trimethoxysilane	4420-74-0		1.471	mg	5001	3014				
				supplier	mold compound	Quartz	14808-60-7		0.882	mg	2999	1807				
				supplier	mold compound	Carbon black	1333-86-4		0.882	mg	2999	1807				
				Connections coating	Solder	4.252	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		4.252	mg	1000000	8713