



## Materials Declaration Form

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

*\* : Required Field*

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2015-03-17
<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>	Emilio Castelli	<b>Representative Title</b>	APG MD CHAMPION
<b>Representative Phone *</b>	Refer to "Supplier Comment" section	<b>Representative Email *</b>	Refer to "Supplier Comment" section
<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**

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**Legal Statement**

<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	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
VNQ5E160KTR-E	ARV5*VNP5ACC	B	MU1A	2015-03-17
Amount		UoM	Unit type	ST ECOPACK Grade
485.90		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	Tin (Sn), matte, annealed	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
CHP	10.3x7.5x2.28	24	flat	
Comment				

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	false
Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7a' exemption (other selected exemptions may apply)	true
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-16th June 2014				
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	ARV5*VNP5ACC					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	Other inorganic materials	5.912	mg	supplier	die	Silicon (Si)	7440-21-3		5.597	mg	946719	11519
Die				supplier	metallization	Aluminium (Al)	7429-90-5		0.016	mg	2706	33
Die				supplier	metallization	Titanium (Ti)	7440-32-6		0.030	mg	5074	62
Die				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.012	mg	2030	25
Die				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.098	mg	16576	202
Die				supplier	glass coating	Glass: Silicon Dioxide (SiO2)	7631-86-9		0.098	mg	16576	202
Die				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.061	mg	10318	126
Leadframe	Copper & its alloys	164.464	mg	supplier	alloy	Copper (Cu)	7440-50-8		158.325	mg	962673	325839
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		3.724	mg	22643	7664
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.224	mg	1362	461
Leadframe				supplier	alloy	Zinc (Zn)	7440-66-6		0.195	mg	1186	401
Leadframe				supplier	metallization	Silver (Ag)	7440-22-4		1.996	mg	12136	4108
Die attach		4.532	mg	JIG - R	Soft solder	Lead (Pb)	7439-92-1	7a-Lead in high me	4.419	mg	975066	9094
Die attach				supplier	Soft solder	Silver (Ag)	7440-22-4		0.068	mg	15004	140
Die attach				supplier	Soft solder	Tin (Sn)	7440-31-5		0.045	mg	9929	93
Bonding wire		1.148		supplier	wire	Gold (Au)	7440-57-5		0.441	mg	384146	908
Bonding wire				supplier	wire	Copper (Cu)	7440-50-8		0.707	mg	615854	1455
encapsulation		304.820	mg	supplier	mold compound	Phenol Resin	205830-20-2		12.192	mg	39997	25092
encapsulation				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		9.145	mg	30001	18821
encapsulation				#N/A	mold compound	epoxy resin	na		9.145	mg	30001	18821
encapsulation				supplier	mold compound	carbon black	1333-86-4		0.610	mg	2001	1255
encapsulation				supplier	mold compound	Silica, vitreous	60676-86-0		273.728	mg	897999	563342
connections coating	Solder	5.024	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		5.024	mg	1000000	10340