



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2015-11-30
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	Giovanni Giacopello	Representative Title	IPD - SPG 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

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
SPSGRF-868	A0ZX-SG1H004	A	MICROTEL	2015-11-30
Amount	UoM	Unit type	ST ECOPACK Grade	
594.00	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
3	245	3	<i>after 168 hrs of floor life, may be done</i>	
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
ting is used or other bulk terminat	Nickel/Gold (Ni/Au)			



Package Designator	Size	Nbr of instances	Shape	
Comment				

QueryList : ROHS directive 2011/65/EU _ July 2011	
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 June 2015				
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						Mfr Item Name	AOZX-SG1H004								
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)			
SPIRITQTR	Other inorganic materials	1.827	mg	supplier	Silicon Die	Silicon (Si)	7440-21-3		1.827	mg	41523	3076			
				supplier	metallization	Aluminum (Al)	7429-90-5		0.032	mg	727	54			
				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.011	mg	250	19			
				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.015	mg	341	25			
	Copper and its alloys	26.087	mg	supplier	Alloy	Copper (Cu)	7440-50-8		25.053	mg	569386	42177			
				supplier	Alloy	Iron (Fe)	7439-89-6		0.604	mg	13727	1017			
				supplier	Alloy	Phosphorous (P)	7723-14-0		0.008	mg	182	13			
				supplier	Alloy	Zinc (Zn)	7440-66-6		0.031	mg	705	52			
				supplier	Plating	Nickel(Ni)	7440-02-0		0.380	mg	8636	640			
				supplier	Plating	Palladium	7440-05-3		0.009	mg	205	15			
				supplier	Plating	Gold	7440-57-5		0.001	mg	23	2			
				supplier	Plating	Silver	7440-22-4		0.001	mg	23	2			
	Other organic materials	0.579	mg	supplier	Glue	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.035	mg	795	59			
				supplier	Glue	Ag	7440-22-4		0.493	mg	11205	830			
				supplier	Glue	Acrylate resins	Proprietary		0.032	mg	727	54			
				supplier	Glue	P-Tertbutylphenyl glycidyl ether	3101-60-8		0.017	mg	386	29			
				supplier	Glue	1-cyanoguanidine	461-58-5		0.002	mg	45	3			
				supplier	Wire	Gold (Au)	7440-57-5		0.417	mg	9477	702			
	Other inorganic materials	0.417	mg	supplier	Molding compound	Epoxy Resin	Proprietary		1.358	mg	30864	2286			
				supplier	Molding compound	Phenol Resin	Proprietary		0.981	mg	22295	1652			
supplier				Molding compound	Silica(Amorphous)	60676-86-0		12.618	mg	286773	21242				
supplier				Molding compound	Other bismuth compounds	7631-86-9		0.015	mg	341	25				
supplier				Molding compound	Carbon Black	1333-86-4		0.045	mg	1023	76				
supplier				Molding compound	Other organic phosphorous compounds	Proprietary		0.015	mg	341	25				
BALF-SPI-01D3				Other inorganic materials	3.028	mg	supplier	metallization	Aluminum (Al)	7429-90-5		0.011	mg	3633	19
							supplier	metallization	Copper (Cu)	7440-50-8		0.224	mg	73976	377
	supplier	metallization	Gold (Au)				7440-57-5		0.007	mg	2312	12			
	supplier	metallization	Tantalum (Ta)				7440-25-7		0.011	mg	3633	19			
	supplier	metallization	Titanium (Ti)	7440-32-6		0.003	mg	991	5						
	supplier	glass coating	Borosilicate glass	65997-17-3		2.318	mg	765522	3902						
	supplier	polymer die coating	Polymer resist - Benzocyclobutene (BCB)	694-87-1		0.036	mg	11889	61						
	supplier	polymer die coating	Polyethylene terephthalate	25038-59-9		0.059	mg	19485	99						
	supplier	polymer die coating	Silica, vitreous	60676-86-0		0.059	mg	19485	99						
	supplier	polymer die coating	Epoxy resin	Proprietary		0.012	mg	3963	20						
	supplier	polymer die coating	Acrylic polymer	9003-01-4		0.012	mg	3963	20						
	supplier	polymer die coating	Carbon black	1333-86-4		0.003	mg	991	5						
	supplier	UBM	Copper (Cu)	7440-50-8		0.015	mg	4954	25						
	supplier	UBM	Titanium (Ti)	7440-32-6		0.002	mg	661	3						
	supplier	UBM	Chromium (Cr)	7440-47-3		0.002	mg	661	3						
	supplier	UBM	Nickel (Ni)	7440-02-0		0.013	mg	4293	22						
	PCB	Other Plastics & Rubber	238.000	mg	supplier	UBM	Vanadium (V)	7440-62-2		0.001	mg	330	2		
					supplier	bump	Tin (Sn)	7440-31-5		0.237	mg	78269	399		
					supplier	bump	Silver (Ag)	7440-22-4		0.002	mg	661	3		
					supplier	bump	Copper (Cu)	7440-50-8		0.001	mg	330	2		
supplier					alloy	Copper (Cu)	7440-50-8		66.640	mg	280000	112189			
supplier					substrate	Epoxy resin	26265-08-7		67.830	mg	285000	114192			
Crystal	Other inorganic materials	3.362	mg	supplier	substrate	Fiber glass	65997-17-3		76.160	mg	320000	128215			
				supplier	substrate	Barium sulfate	7727-43-7		7.140	mg	30000	12020			
				supplier	substrate	Acrylated epoxy resin	proprietary		16.660	mg	70000	28047			
				supplier	metallization	Nickel (Ni)	7440-02-0		1.190	mg	5000	2003			
				supplier	metallization	Gold (Au)	7440-57-5		2.380	mg	10000	4007			
				supplier	metallization	Iron (Fe)	7439-89-6		0.648	mg	192742	1091			
				supplier	metallization	Nickel (Ni)	7440-02-0		0.521	mg	154967	877			
				supplier	metallization	Cobalt (Co)	7440-48-4		0.210	mg	62463	354			
				supplier	metallization	Manganese (Mn)	7439-96-5		0.003	mg	892	5			
				supplier	metallization	Silicon (Si)	7440-21-3		0.022	mg	6544	37			
				supplier	metallization	Gold (Au)	7440-57-5		0.365	mg	108566	614			
				supplier	metallization	Tin (Sn)	7440-31-5		0.094	mg	27960	158			
				supplier	Ceramic	Aluminum oxide	1344-28-1		1.121	mg	333432	1887			

				supplier	Ceramic	Manganese Oxide	1317-34-6		0.041	mg	12195	69
Antenna	Other inorganic materials	93.700	mg	supplier	Ceramic	Silicon dioxide	14808-60-7		0.039	mg	11600	66
				supplier	Ceramic	Molybdenum trioxide	1313-27-5		0.005	mg	1487	8
				supplier	Ceramic	Magnesium oxide	1309-48-4		0.003	mg	892	5
Inductor 1	Other inorganic materials	9.262	mg	supplier	Ceramic	Molybdenum	7439-98-7		0.290	mg	86258	488
				supplier	Ceramics	Aluminum oxide	1344-28-1		78.930	mg	842369	132879
				supplier	Ceramics	Silicon dioxide	7631-86-9		8.770	mg	93597	14764
				supplier	Connection	Silver (Ag)	7440-22-4		6.000	mg	64034	10101
				supplier	Outer electrode	Silver (Ag)	7440-22-4		0.478	mg	51609	805
				supplier	glass coating	Glass oxide	65997-17-3		0.006	mg	648	10
				supplier	glass coating	Silicon dioxide	7631-86-9		0.048	mg	5182	81
				supplier	Ceramic	Iron(III) oxide	1309-37-1		4.680	mg	505290	7879
				supplier	Ceramic	Zinc oxide	1314-13-2		1.586	mg	171237	2670
				supplier	Ceramic	Nickel oxide	1313-99-1		0.794	mg	85727	1337
				supplier	Ceramic	Copper oxide	1317-38-0		0.794	mg	85727	1337
				supplier	Ceramic	Bismuth oxide	1304-76-3		0.080	mg	8637	135
				supplier	Inner electrode	Silver (Ag)	7440-22-4		0.580	mg	62621	976
				supplier	Inner electrode	Nickel (Ni)	7440-02-0		0.096	mg	10365	162
				supplier	Inner electrode	Tin (Sn)	7440-31-5		0.120	mg	12956	202
Inductor 2	Other inorganic materials	3.032	mg	supplier	Ceramics	Aluminum oxide	1344-28-1		1.968	mg	649077	3313
				supplier	Ceramics	Silicon dioxide	7631-86-9		0.248	mg	81794	418
				supplier	Ceramics	Calcium oxide	1305-78-8		0.248	mg	81794	418
				supplier	Copper plating	Copper (Cu)	7440-50-8		0.208	mg	68602	350
				supplier	Other thermoplastics	Polyester imide	68604-67-1		0.004	mg	1319	7
				supplier	Other special metals	Silver (Ag)	7440-22-4		0.060	mg	19789	101
				supplier	Glass	Silicon dioxide	7631-86-9		0.008	mg	2639	13
				supplier	Nickel plating	Nickel (Ni)	7440-02-0		0.036	mg	11873	61
				supplier	Tin plating	Tin (Sn)	7440-31-5		0.124	mg	40897	209
				supplier	Epoxy resin	Epoxy resin	54847-34-6		0.084	mg	27704	141
				supplier	Epoxy resin	Talc	14807-96-6		0.044	mg	14512	74
Inductor3	Other inorganic materials	0.199	mg	supplier	Ceramics	Aluminum oxide	1344-28-1		0.129	mg	648241	217
				supplier	Ceramics	Silicon dioxide	7631-86-9		0.016	mg	80402	27
				supplier	Ceramics	Calcium oxide	1305-78-8		0.016	mg	80402	27
				supplier	Copper plating	Copper (Cu)	7440-50-8		0.014	mg	70352	24
				supplier	Other special metals	Silver (Ag)	7440-22-4		0.004	mg	20101	7
				supplier	Glass	Silicon dioxide	7631-86-9		0.001	mg	5025	2
				supplier	Nickel plating	Nickel (Ni)	7440-02-0		0.002	mg	10050	3
				supplier	Tin plating	Tin (Sn)	7440-31-5		0.008	mg	40201	13
				supplier	Epoxy resin	Epoxy resin	54847-34-6		0.006	mg	30151	10
				supplier	Epoxy resin	Talc	14807-96-6		0.003	mg	15075	5
Capacitor1	Other inorganic materials	0.600	mg	supplier	Ceramics	Barium Titanate	12047-27-7		0.248	mg	413333	418
				supplier	Connection	Nickel (Ni)	7440-02-0		0.184	mg	306667	310
				supplier	Connection	Copper (Cu)	7440-50-8		0.144	mg	240000	242
				supplier	Connection	Tin (Sn)	7440-31-5		0.024	mg	40000	40
Capacitor2	Other inorganic materials	2.590	mg	supplier	Glass	Silicon dioxide	7631-86-9		0.050	mg	19305	84
				supplier	Glass	Glass oxide	65997-17-3		0.010	mg	3861	17
				supplier	Electrolytic Nickel Plating	Nickel	7440-02-0		0.060	mg	23166	101
				supplier	Copper	Copper	7440-50-8		0.560	mg	216216	943
				supplier	Ceramics	Barium oxide	1304-28-5		1.110	mg	428571	1869
				supplier	Ceramics	Titanium-dioxide	13463-67-7		0.730	mg	281853	1229
				supplier	Nickel /Other Nickel alloy	Nickel	7440-02-0		0.070	mg	27027	118
Shield	Other inorganic materials	187.410	mg	supplier	Electrolytic Gold Plating	Gold	7440-57-5		0.410	mg	2188	690
				supplier	alloy	Copper (Cu)	7440-50-8		118.184	mg	630617	198963
				supplier	alloy	Zinc (Zn)	7440-66-6		36.895	mg	196868	62113
				supplier	alloy	Nickel (Ni)	7440-02-0		31.603	mg	168630	53204
				supplier	alloy	Iron (Fe)	7439-89-6		0.318	mg	1697	535
Soft solder	Solder	8.817	mg	supplier	solder	Tin (Sn)	7440-31-5		7.892	mg	895089	13286
				supplier	solder	Antimony (Sb)	7440-36-0		0.837	mg	94930	1409
				supplier	solder	Colophony	8050-09-7		0.088	mg	9981	148