



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 *	2020-03-30
Company Unique ID	NL 008751171B01		
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 *	Giovanni Giacobello	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		

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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
TESEO-LIV3F	A09C*VB18BFV	A	996G	2020-03-30
	Amount	UoM	Unit type	ST ECOPACK Grade
	474	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		
3	245	3		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy	DM00512448	



Package Designator	Size	Nbr of instances	Shape	
Mounted BOARD	100 - 95 - 2	#N/A	flat	
Comment	0			

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
7c-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound

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
10a	Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound. This exemption does not cover the use of lead in: — glass in bulbs and glaze of spark plugs, — dielectric ceramic materials of components listed under 10(b), 10(c) and 10(d)

QueryList : California Prop65 list, dated 3rd January 2020			
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	40.72	Total content in all homogeneous materials	85905
Lead	0.002	STA8090WG in solder alloy	4
Lead-Borate Glass	0.001	Resistor	2
Diboron trioxide	0.05	Total content in capacitors	110

QueryList : REACH-16th January 2020				
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
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				TRUE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material

Material Composition Declaration :							Mfr Item Name	A09C*VB18BFV					
note : Substance present with less 0.001mg will not be declared in this document													
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)	
PCB	M-011 Other inorganic materials	204.489	mg	supplier	alloy	Copper (Cu)	7440-50-8		57.183	mg	279639	120639	
PCB				supplier	substrate	Epoxy resin	25068-38-6		58.308	mg	285140	123013	
PCB				supplier	substrate	Fiber glass	65997-17-3		65.469	mg	320159	138120	
PCB				supplier	substrate	Barium sulfate	7727-43-7		6.138	mg	30016	12949	
PCB				supplier	substrate	Acrylated epoxy resin	proprietary		14.322	mg	70038	30215	
PCB				supplier	metallization	Nickel (Ni)	7440-02-0		1.022	mg	4998	2156	
PCB				supplier	metallization	Gold (Au)	7440-57-5		2.047	mg	10010	4319	
Crystal 1	M-011 Other inorganic materials	4.597	mg	supplier	alloy	Nickel (Ni)	7440-02-0		0.616	mg	134000	1300	
Crystal 1				supplier	alloy	Cobalt (Co)	7440-48-4		0.361	mg	78529	762	
Crystal 1				supplier	alloy	Iron (Fe)	7439-89-6		0.217	mg	47205	458	
Crystal 1				supplier	alloy	Manganese	7439-96-5		0.006	mg	1305	13	
Crystal 1				supplier	ceramic	Aluminum oxide	1344-28-1		1.975	mg	429628	4167	
Crystal 1				supplier	ceramic	Manganese oxide	1317-34-6		0.07	mg	15227	148	
Crystal 1				supplier	ceramic	Silicon dioxide	14808-60-7		0.07	mg	15227	148	
Crystal 1				supplier	ceramic	Molybdenum oxide	1313-27-5		0.01	mg	2177	21	
Crystal 1				supplier	metallization	Molybdenum	7439-98-7		0.571	mg	124211	1205	
Crystal 1				supplier	metallization	Nickel (Ni)	7440-02-0		0.13	mg	28279	274	
Crystal 1				supplier	plating	Gold (Au)	7440-57-5		0.04	mg	8701	84	
Crystal 1				supplier	solder alloy	Silver (Ag)	7440-22-4		0.281	mg	61127	593	
Crystal 1				supplier	solder alloy	Copper (Cu)	7440-50-8		0.05	mg	10877	105	
Crystal 1				supplier	adhesive	Silver (Ag)	7440-22-4		0.174	mg	37851	367	
Crystal 1				supplier	adhesive	Silicon dioxide	7631-86-9		0.026	mg	5656	55	
MX25R1635FBDIHO	M-011 Other inorganic materials	2.611	mg	supplier	Die	Silicon (Si)	7440-21-3		2.233	mg	855228	4711	
MX25R1635FBDIHO				supplier	polymer	Y-Butyrolactone	96-48-0		0.022	mg	8426	46	
MX25R1635FBDIHO				supplier	polymer	1-Methoxy-2-propyl acetate	108-65-6		0.002	mg	766	4	
MX25R1635FBDIHO				supplier	RDL metallization	Titanium (Ti)	7440-32-6		0.011	mg	4213	23	
MX25R1635FBDIHO				supplier	RDL metallization	Tungsten (W)	7440-33-7		0.002	mg	766	4	
MX25R1635FBDIHO				supplier	RDL metallization	Copper (Cu)	7440-50-8		0.122	mg	46725	257	
MX25R1635FBDIHO				supplier	solder	Tin (Sn)	7440-31-5		0.21	mg	80429	443	
MX25R1635FBDIHO				supplier	solder	Silver (Ag)	7440-22-4		0.008	mg	3064	17	
MX25R1635FBDIHO				supplier	solder	Copper (Cu)	7440-50-8		0.001	mg	383	2	
Crystal 2	M-011 Other inorganic materials	9.958	mg	supplier	alloy	Nickel (Ni)	7440-02-0		0.83	mg	83350	1751	
Crystal 2				supplier	alloy	Cobalt (Co)	7440-48-4		0.48	mg	48202	1013	
Crystal 2				supplier	alloy	Iron (Fe)	7439-89-6		1.538	mg	154449	3245	
Crystal 2				supplier	alloy	Manganese	7439-96-5		0.006	mg	603	13	
Crystal 2				supplier	ceramic	Aluminum oxide	1344-28-1		4.31	mg	432818	9093	
Crystal 2				supplier	ceramic	Manganese oxide	1317-34-6		0.16	mg	16067	338	
Crystal 2				supplier	ceramic	Silicon dioxide	14808-60-7		0.15	mg	15063	316	
Crystal 2				supplier	ceramic	Molybdenum oxide	1313-27-5		0.02	mg	2008	42	
Crystal 2				supplier	metallization	Molybdenum	7439-98-7		0.842	mg	84555	1776	
Crystal 2				supplier	metallization	Nickel (Ni)	7440-02-0		0.16	mg	16067	338	
Crystal 2				supplier	plating	Gold (Au)	7440-57-5		0.06	mg	6028	127	
Crystal 2				supplier	solder alloy	Silver (Ag)	7440-22-4		0.361	mg	36252	762	
Crystal 2				supplier	solder alloy	Copper (Cu)	7440-50-8		0.077	mg	7732	162	
Crystal 2				supplier	Die	Silicon (Si)	7440-21-3		0.344	mg	34545	726	
Crystal 2				supplier	metallization	Aluminum (Al)	7429-90-5		0.001	mg	100	2	
Crystal 2				supplier	metallization	Copper (Cu)	7440-50-8		0.001	mg	100	2	
Crystal 2				supplier	resin	Epoxy resin	9003-36-5		0.338	mg	33943	713	
Crystal 2				supplier	resin	4,4'-Methylene-bis(2-ethylaniline)	19900-65-3		0.067	mg	6728	141	
Crystal 2				supplier	resin	Silicon dioxide	7631-86-9		0.036	mg	3615	76	
Crystal 2				supplier	quartz	Silicon dioxide	14808-60-7		0.177	mg	17775	373	
STA8090WG	M-011 Other inorganic materials	20.044	mg	supplier	die	Silicon (Si)	7440-21-3		10.198	mg	508781	21515	
STA8090WG				supplier	metallisation	Aluminium (Al)	7429-90-5		0.03	mg	1497	63	
STA8090WG				supplier	metallisation	Copper (Cu)	7440-50-8		0.179	mg	8930	378	
STA8090WG				supplier	metallisation	Nickel (Ni)	7440-02-0		0.001	mg	50	2	
STA8090WG				supplier	metallisation	Tantalum (Ta)	7440-25-7		0.03	mg	1497	63	
STA8090WG				supplier	metallisation	Titanium (Ti)	7440-32-6		0.008	mg	399	17	
STA8090WG				supplier	metallisation	Tungsten (W)	7440-33-7		0.001	mg	50	2	
STA8090WG				supplier	Passivation	Silicon Nitride (SiN)	12033-89-5		0.041	mg	2045	86	

STA8090WG				supplier	passivation	Silicon Oxide	7631-86-9		0.139	mg	6935	293
STA8090WG				supplier	die polymer coating	PIX1 Gamma-butyrolactone	96-48-0		1.484	mg	74037	3131
STA8090WG				supplier	UBM	Copper (Cu)	7440-50-8		0.076	mg	3792	160
STA8090WG				supplier	UBM	Titanium (Ti)	7440-32-6		0.001	mg	50	2
STA8090WG				supplier	RDL	Copper (Cu)	7440-50-8		0.533	mg	26591	1124
STA8090WG				supplier	resin	silica vitreous	60676-86-0		0.494	mg	24646	1042
STA8090WG				supplier	resin	Epoxy resin	Proprietary		0.178	mg	8880	376
STA8090WG				supplier	resin	Acrylic polymer	Proprietary		0.178	mg	8880	376
STA8090WG				supplier	resin	Bis-phenol A diglycidyl ether	25036-25-3		0.061	mg	3043	129
STA8090WG				supplier	resin	carbon black	1333-86-4		0.005	mg	249	11
STA8090WG				supplier	resin	Iron compound	7439-89-6		0.051	mg	2544	108
STA8090WG				supplier	resin	Zinc compound	7440-66-6		0.051	mg	2544	108
STA8090WG				supplier	solder alloy	Tin (Sn)	7440-31-5		6.026	mg	300639	12713
STA8090WG				supplier	solder alloy	Silver (Ag)	7440-22-4		0.24	mg	11974	506
STA8090WG				supplier	solder alloy	Copper (Cu)	7440-50-8		0.038	mg	1896	80
STA8090WG				SVHC	solder alloy	Lead (Pb)	7439-92-1		0.001	mg	51	2
Resistor	M-011 Other inorganic materials	0.166	mg	supplier	Ceramics	Aluminium oxide	1344-28-1		0.131	mg	789157	276
Resistor				supplier	Ceramics	Silicon dioxide	7631-86-9		0.002	mg	12048	4
Resistor				supplier	Ceramics	Magnesium oxide	1309-48-4		0.002	mg	12048	4
Resistor				supplier	Ceramics	Silver (Ag)	7440-22-4		0.002	mg	12048	4
Resistor				supplier	Paste	Silver (Ag)	7440-22-4		0.003	mg	18072	6
Resistor				supplier	Resistive Element	Ruthenium dioxide	12036-10-1		0.001	mg	6025	2
Resistor				supplier	Nickel Plating	Nickel (Ni)	7440-02-0		0.013	mg	78313	27
Resistor				supplier	Tin Plating	Tin (Sn)	7440-31-5		0.007	mg	42169	15
Resistor				JIG-R & California 65	Overcoat	Lead-Borate Glass	65997-18-4	7c-I-Electrical and electronic co	0.001	mg	6024	2
Resistor				supplier	Overcoat	Texanol	25265-77-4		0.001	mg	6024	2
Resistor				supplier	Overcoat	Epoxy resin	25068-38-6		0.003	mg	18072	6
Inductor 1	M-011 Other inorganic materials	5.925	mg	supplier	ceramic element	Iron oxide	1309-37-1		2.229	mg	376203	4747
Inductor 1				supplier	ceramic element	Zinc oxide	1314-13-2		0.705	mg	118987	1487
Inductor 1				supplier	ceramic element	Nickel oxide	1313-99-1		0.362	mg	61097	764
Inductor 1				supplier	ceramic element	Copper oxide	1317-38-0		0.324	mg	54684	684
Inductor 1				supplier	ceramic element	Tin dioxide	18282-10-5		0.362	mg	61097	764
Inductor 1				supplier	ceramic element	Manganese oxide	1317-34-6		0.038	mg	6413	80
Inductor 1				supplier	electrode	Silver (Ag)	7440-22-4		1.544	mg	260591	3257
Inductor 1				supplier	electrode passivation	Silicon Oxide	7631-86-9		0.057	mg	9620	120
Inductor 1				supplier	electrode metallisation	Nickel (Ni)	7440-02-0		0.133	mg	22447	281
Inductor 1				supplier	electrode metallisation	Tin	7440-31-5		0.171	mg	28861	361
Inductor 2	M-011 Other inorganic materials	1.302	mg	supplier	ceramic element	Aluminum oxide	1344-28-1		0.986	mg	757296	2080
Inductor 2				supplier	ceramic element	Silicon Oxide	7631-86-9		0.122	mg	93702	257
Inductor 2				supplier	ceramic element	Calcium oxide	1305-78-8		0.06	mg	46083	127
Inductor 2				supplier	electrode	Copper (Cu)	7440-50-8		0.104	mg	79877	219
Inductor 2				supplier	electrode metallisation	Silver (Ag)	7440-22-4		0.03	mg	23042	63
NSR05F30NXT5G	M-011 Other inorganic materials	0.446	mg	supplier	die	Silicon (Si)	7440-21-3		0.424	mg	950673	895
NSR05F30NXT5G				supplier	metallisation	Nickel (Ni)	7440-02-0		0.021	mg	47085	44
NSR05F30NXT5G				supplier	metallisation	Gold (Au)	7440-57-5		0.001	mg	2242	2
BAT30F4	M-011 Other inorganic materials	0.261	mg	supplier	die	Silicon (Si)	7440-21-3		0.241	mg	923372	508
BAT30F4				supplier	metallisation	Aluminium (Al)	7429-90-5		0.01	mg	38314	21
BAT30F4				supplier	metallisation	Nickel (Ni)	7440-02-0		0.002	mg	7663	4
BAT30F4				supplier	passivation	Silicon Oxide	7631-86-9		0.002	mg	7663	4
BAT30F4				supplier	die polymer coating	Durimide	proprietary		0.004	mg	15326	8
BAT30F4				supplier	UBM	Copper (Cu)	7440-50-8		0.001	mg	3831	2
BAT30F4				supplier	UBM	Nickel (Ni)	7440-02-0		0.001	mg	3831	2
Capacitors 1	M-011 Other inorganic materials	6.209	mg	supplier	Ceramics	Barium oxide, obtain	1304-28-5		2.756	mg	443872	5814
Capacitors 1				supplier	Ceramics	Titanium dioxide	13463-67-7		1.295	mg	208568	2732
Capacitors 1				supplier	Copper alloys	Copper	7440-50-8		1.087	mg	175068	2293
Capacitors 1				SVHC	Glass	diboron trioxide; bor	1303-86-2		0.03	mg	4832	63
Capacitors 1				supplier	Glass	Silicon dioxide	7631-86-9		0.095	mg	15300	200
Capacitors 1				supplier	metallization	Nickel	7440-02-0		0.111	mg	17878	234
Capacitors 1				supplier	plating	Nickel	7440-02-0		0.533	mg	85843	1124
Capacitors 1				supplier	Tin plating	Tin	7440-31-5		0.302	mg	48639	637
Capacitors 2	M-011 Other inorganic materials	1.554	mg	supplier	Ceramics	Zirconium oxide	1314-23-4		0.548	mg	352638	1156

Capacitors 2				supplier	Ceramics	Calcium oxide	1305-78-8		0.439	mg	282497	926
Capacitors 2				supplier	Nickel /Other Nickel alloy	Nickel	7440-02-0		0.296	mg	190476	624
Capacitors 2				supplier	Copper alloys	Copper	7440-50-8		0.182	mg	117117	384
Capacitors 2				SVHC	Glass	diboron trioxide; bor	1303-86-2		0.016	mg	10296	34
Capacitors 2				supplier	Glass	Silicon dioxide	7631-86-9		0.004	mg	2574	8
Capacitors 2				supplier	Electrolytic Nickel Plating	Nickel	7440-02-0		0.019	mg	12227	40
Capacitors 2				supplier	Electrolytic Tin plating	Tin	7440-31-5		0.05	mg	32175	105
Capacitors 3	M-011 Other inorganic materials	0.93	mg	supplier	Copper alloys	Copper	7440-50-8		0.217	mg	233333	458
Capacitors 3				SVHC	Glass	diboron trioxide; bor	1303-86-2		0.006	mg	6452	13
Capacitors 3				supplier	Glass	Silicon dioxide	7631-86-9		0.018	mg	19355	
Capacitors 3				supplier	Nickel plating	Nickel	7440-02-0		0.021	mg	22581	44
Capacitors 3				supplier	Nickel and Nickel alloys	Nickel	7440-02-0		0.027	mg	29031	57
Capacitors 3				supplier	Tin plating	Tin	7440-31-5		0.06	mg	64516	127
Capacitors 3				supplier	Ceramics	Calcium oxide	1305-78-8		0.259	mg	278495	546
Capacitors 3				supplier	Ceramics	Zirconium oxide	1314-23-4		0.322	mg	346237	679
Shield	M-011 Other inorganic materials	215.508	mg	supplier	alloy	Copper (Cu)	7440-50-8		136.2	mg	631995	287342
Shield				supplier	alloy	Zinc (Zn)	7440-66-6		42.52	mg	197301	89705
Shield				supplier	alloy	Nickel (Ni)	7440-02-0		36.421	mg	169001	76838
Shield				supplier	alloy	Iron (Fe)	7439-89-6		0.367	mg	1703	774