


Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32L471QE16	P4PG*415XXX4	A	9996	19-09-2018
	Amount	UoM	Unit type	ST ECOPACK Grade
	68.00	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
3	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
SOLDERBALL (Sn96.5Ag3.5)	NAC	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
BGA	7x7x0.6	132	No lead	
Comment	Package : A0G8 UFBGA 7X7X0.6 132L P 0.5 R 12X12 8298393			

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-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				TRUE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration :						Mfr Item Name	P4PG*415XXX4				9999999.0	1000000.0
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)
Die or dies	M-011 Other inorganic materials	3.516	mg	supplier	die	Silicon (Si)	7440-21-3		2.946	mg	837884	43324
				supplier	metallization	Aluminium (Al)	7429-90-5		0.027	mg	7679	397
				supplier	metallization	Copper (Cu)	7440-50-8		0.242	mg	68828	3559
				supplier	metallization	Cobalt (Co)	7440-48-4		0.001	mg	284	15
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.078	mg	22184	1147
				supplier	metallization	Titanium (Ti)	7440-32-6		0.003	mg	853	44
				supplier	metallization	Tungsten (W)	7440-33-7		0.002	mg	569	29
				supplier	Passivation	Silicon Nitride	12033-89-5		0.061	mg	17349	897
				supplier	Passivation	Silicon Oxide	7631-86-9		0.156	mg	44369	2294
				SUBSTRATE (DS7409HGB) Core	M-011 Other inorganic materials	20.090	mg	supplier	CORE	Organic resin	Proprietary	
supplier	CORE	Other inorganic filler	Proprietary						5.223	mg	260000	76815
supplier	CORE	Glass fiber	65997-17-3						10.246	mg	510000	150675
SUBSTRATE (DS7409HGB) Cu Foil	M-011 Other inorganic materials	5.660	mg	supplier	CU FOIL	Copper (Cu)	7440-50-8		5.660	mg	1000000	83235
				supplier	SOLDERMASK	Organic resin	Proprietary		3.185	mg	650000	46838
SUBSTRATE (DS7409HGB) Solder Mas	M-011 Other inorganic materials	4.900	mg	supplier	SOLDERMASK	Inorganic filler	Proprietary		1.715	mg	350000	25221
				supplier	NI PLATING	Nickel (Ni)	7440-02-0		2.700	mg	1000000	39706
SUBSTRATE (DS7409HGB) Ni	M-011 Other inorganic materials	2.700	mg	supplier	AU PLATING	Gold (Au)	7440-57-5		0.400	mg	1000000	5882
SUBSTRATE (DS7409HGB) Au	M-011 Other inorganic materials	0.400	mg	supplier	GLUE	Epoxy resin	Proprietary		0.927	mg	979915	13632
DIE ATTACH (ATB-130U)	M-011 Other inorganic materials	0.946	mg	supplier	GLUE	Filler	Proprietary		0.019	mg	20085	279
				supplier	BONDING WIRE	Gold (Au)	7440-57-5		1.200	mg	1000000	17647
BONDING WIRE (MKE 4N)	M-011 Other inorganic materials	1.200	mg	supplier	SOLDBALL	Tin (Sn)	7440-31-5		4.000	mg	975610	58824
SOLDBALL (Sn96.5Ag3.5)	M-011 Other inorganic materials	4.100	mg	supplier	SOLDBALL	Silver (Ag)	7440-22-4		0.100	mg	24390	1471
				supplier	MOLDING COMPOUND	Silica fused (SiO2)	60676-86-0		21.588	mg	875446	317471
ENCAPSULATION (GE-100LPCS)	M-011 Other inorganic materials	24.488	mg	supplier	MOLDING COMPOUND	Epoxy resin	Proprietary		2.900	mg	124554	42647
				supplier	MOLDING COMPOUND	Epoxy resin	Proprietary		2.900	mg	124554	42647