




Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM8AL31E8ATCX	U31S*79KX11Z	A	959	2018-09-02
	Amount	UoM	Unit type	ST ECOPACK Grade
	645.00	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	
NAC	Matte Tin	Copper		

Package Designator	Size	Nbr of instances	Shape	
QFP	14x14x1.4	80	L Bend	
Comment	Package : 1S LQFP 80 14x14x1.4 1 0062342			

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-12th January 2017				
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 : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	U315*79KX11Z				5999999.0	1000002.0
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	6.688	mg	supplier	die	Silicon (Si)	7440-21-3		6.482	mg	969199	10050
				supplier	metallization	Aluminium (Al)	7429-90-5		0.018	mg	2691	28
				supplier	metallization	Copper (Cu)	7440-50-8		0.060	mg	8971	93
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.007	mg	1047	11
				supplier	metallization	Titanium (Ti)	7440-32-6		0.009	mg	1346	14
				supplier	Passivation	Silicon Nitride	12033-89-5		0.016	mg	2392	25
				supplier	Passivation	Silicon Oxide	7631-86-9		0.096	mg	14354	149
Lead-frame	M-011 Other inorganic materials	130.716	mg	supplier	alloy	Copper (Cu)	7440-50-8		125.749	mg	962000	194960
				supplier	alloy	Nickel (Ni)	7440-02-0		3.921	mg	30000	6080
				supplier	alloy	Silicium (Si)	7440-21-3		0.850	mg	6500	1317
				supplier	alloy	Magnesium (Mg)	7439-95-4		0.196	mg	1500	304
Die Attach	M-011 Other inorganic materials	3.180	mg	supplier	glue or soft solder	Isobornyl Methacrylate	7534-94-3		0.138	mg	43243	213
				supplier	glue or soft solder	Bismaleimide resin	Proprietary		0.120	mg	37838	187
				supplier	glue or soft solder	polymer	Proprietary		1.461	mg	459459	2265
				supplier	glue or soft solder	Silver (Ag)	7440-22-4		1.461	mg	459459	2265
Wires	M-011 Other inorganic materials	2.043	mg	supplier	Bonding wire	Gold (Au)	7440-57-5		2.043	mg	1000000	3168
Encapsulation	M-011 Other inorganic materials	493.696	mg	supplier	Moulding Compound	Solid Epoxy Resin	Proprietary		34.676	mg	70237	53761
				supplier	Moulding Compound	Phenol Resin	Proprietary		24.768	mg	50169	38400
				supplier	Moulding Compound	Silica, vitreous	60676-86-0		426.821	mg	864543	661738
				supplier	Moulding Compound	Carbon-black	1333-86-4		2.477	mg	5017	3840
				supplier	Bismuth/Bismuth Compounds	Bismuth	7440-69-9		4.954	mg	10034	7680
Finishing	M-011 Other inorganic materials	8.678	mg	supplier	connections coating	Tin (Sn)	7440-31-5		8.678	mg	1000000	13454