




Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32F103VCH6	S2H0*414XXXX	A	998Z	29-09-2017
	Amount	UoM	Unit type	ST ECOPACK Grade
	214.80	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	
Not Applicable; if coating is used or other bulk termination	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
BGA	10x10x1.7	144	No lead	
Comment	Package : H0 LFBGA 10x10x1.7 100 F10x10 0.8 7427487			

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	SZH0*414XXXX				5999999.0	1000000.0
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	13.824	mg	supplier	die	Silicon (Si)	7440-21-3		13.067	mg	945240	60834
				supplier	metallization	Aluminium (Al)	7429-90-5		0.051	mg	3689	237
				supplier	metallization	Copper (Cu)	7440-50-8		0.257	mg	18591	1196
				supplier	metallization	Cobalt (Co)	7440-48-4		0.048	mg	3472	223
				supplier	metallization	Titanium (Ti)	7440-32-6		0.014	mg	1013	65
				supplier	metallization	Tungsten (W)	7440-33-7		0.028	mg	2025	130
				supplier	Passivation	Silicon Nitride	12033-89-5		0.034	mg	2459	158
				supplier	Passivation	Silicon Oxide	7631-86-9		0.325	mg	23510	1513
				Supplier	Glass	Silica, amorphous, fused	60676-86-0		0.415	mg	482955	1930
Die Attach Epoxy_ABLEBOND 2025D	M-011 Other inorganic materials	0.859	mg	Supplier	Plastics/polymers	Bismaleimide Monomer	TS ref# 10049		0.268	mg	312500	1249
				Supplier	Plastics/polymers	Acrylate monomer	TS ref# 10050		0.073	mg	85227	341
				Supplier	Plastics/polymers	Epoxy resin	TS ref# 10042		0.073	mg	85227	341
				Supplier	Plastics/polymers	Acrylic resin	TS ref# 10051		0.029	mg	34091	136
				Supplier	Plastics/polymers	Epoxy Resin A	Proprietary		2.338	mg	19836	10887
Mold Compound_EME-G770LC_Sumitomo	M-011 Other inorganic materials	116.637	mg	Supplier	Plastics/polymers	Epoxy Resin B	Proprietary		2.338	mg	19836	10887
				Supplier	Plastics/polymers	Phenol Resin A	Proprietary		2.338	mg	19836	10887
				Supplier	Plastics/polymers	Phenol Resin B	Proprietary		2.338	mg	19836	10887
				Supplier	Plastics/polymers	Silica(Amorphous) A	60676-86-0		84.357	mg	726171	392731
				Supplier	Plastics/polymers	Silica(Amorphous) B	7631-86-9		19.944	mg	169180	92851
				Supplier	Plastics/polymers	Metal Hydroxide	Proprietary		2.338	mg	19836	10887
				Supplier	Additives	Carbon Black	1333-86-4		0.645	mg	5470	3002
				Supplier	Metals	Gold	7440-57-5		0.898	mg	1000000	4182
				Supplier	Metals	Tin	7440-31-5		23.930	mg	965000	111407
Wire_Wire AU 20um R_MKE	Bonding Wire	0.898	mg	Supplier	Metals	Silver	7440-22-4		0.744	mg	30000	3463
				Supplier	Metals	Copper	7440-50-8		0.124	mg	5000	577
Solder Ball_96.5SN/3AG/0.5CU 0.4M	Metals	24.798	mg	Supplier	Metals	Potassium	7440-39-3		0.001	mg	10000	1000
				Supplier	Metals	Iron	7440-18-0		0.001	mg	10000	1000
				Supplier	Metals	Aluminum	7429-90-5		0.001	mg	10000	1000
				Supplier	Metals	Lead	7440-37-0		0.001	mg	10000	1000
				Supplier	Metals	Antimony	7449-49-7		0.001	mg	10000	1000
				Supplier	Metals	Indium	7440-48-1		0.001	mg	10000	1000
				Supplier	Metals	Gold	7440-57-5		0.001	mg	10000	1000
				Supplier	Metals	Copper	7440-50-8		0.001	mg	10000	1000
				Supplier	Metals	Nickel	7440-02-0		0.001	mg	10000	1000
				Supplier	Metals	Silver	7440-22-4		0.001	mg	10000	1000
				Supplier	Metals	Platinum	7440-19-2		0.001	mg	10000	1000
				Supplier	Metals	Palladium	7440-05-9		0.001	mg	10000	1000
				Supplier	Metals	Chromium	7440-47-3		0.001	mg	10000	1000
				Supplier	Metals	Zinc	7440-66-3		0.001	mg	10000	1000
				Supplier	Metals	Aluminum	7429-90-5		0.001	mg	10000	1000
				Supplier	Metals	Iron	7440-18-0		0.001	mg	10000	1000
				Substrate_LFBGA 10X10 144LD 0.8P 2	M-011 Other inorganic materials	57.780	mg	Supplier	Soldermask	PAK resin (polyacrylate)	Proprietary	
Supplier	Soldermask	Epoxy resin	Proprietary						0.779	mg	13481	3626
Supplier	Soldermask	Phthalocyanine blue	147-14-8						0.017	mg	293	79
Supplier	Soldermask	Organic pigment	Proprietary						0.017	mg	293	79
Supplier	Soldermask	Barium sulfate	7727-43-7						1.357	mg	23481	6316
Supplier	Soldermask	Talc containing no asbestiform fibers	14807-96-6						0.308	mg	5336	1435
Supplier	Soldermask	Silica, amorphous Ⓜ	7631-86-9						0.035	mg	598	161
Supplier	Soldermask	Antifoamer & Leveling agent	Proprietary						0.097	mg	1673	450
Supplier	Core	Cured thermosetting resin (including inorganic)	65997-17-3						20.642	mg	357246	96099
Supplier	Core	Continuous Filament Fiber Glass	Trade Secret						3.308	mg	57246	15399
Supplier	Core	Copper Foil	7440-50-8						12.013	mg	207907	55927
Supplier	Copper plating	Copper	7440-50-8						16.892	mg	292353	78643
Supplier	Finishing	Nickel	7440-02-0						0.672	mg	11629	3128
Supplier	Finishing	Gold	7440-57-5						0.087	mg	1513	407