


Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32F446RET6	S05W*421XXXA	A	998Z	21-08-2017
	Amount	UoM	Unit type	ST ECOPACK Grade
	356.56	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	
QFP	10x10X1.4	64	L bend	
Comment	Package : 5W LQFP 64 10x10x1.4 1 0051434			

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-7th July 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	S05W*421XXXX				6000001.0	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	26.583	mg	supplier	die	Silicon (Si)	7440-21-3		25.918	mg	974984	72589
				supplier	metallization	Aluminium (Al)	7429-90-5		0.047	mg	1768	132
				supplier	metallization	Copper (Cu)	7440-50-8		0.302	mg	11361	847
				supplier	metallization	Cobalt (Co)	7440-48-4		0.001	mg	38	3
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.042	mg	1580	118
				supplier	metallization	Tungsten (W)	7440-33-7		0.136	mg	5116	381
				supplier	Passivation	Silicon Nitride	12033-89-5		0.035	mg	1317	98
				supplier	Passivation	Silicon Oxide	7631-86-9		0.102	mg	3837	286
Die Attach Epoxy_ABLEBOND 3230_H	M-011 Other inorganic materials	1.706	mg	Supplier	Metals	Silver	7440-22-4		1.537	mg	901000	4311
				Supplier	Plastics/polymers	Highly cross-linked polymer	Proprietary		0.169	mg	99000	474
Mold Compound_EME-G631SHQ_Sur	M-011 Other inorganic materials	228.736	mg	Supplier	Plastics/polymers	Epoxy Resin A	Proprietary		5.098	mg	21000	14299
				Supplier	Plastics/polymers	Epoxy Resin B	Proprietary		5.098	mg	21000	14299
				Supplier	Plastics/polymers	Phenol Resin	Proprietary		13.596	mg	56000	38130
				Supplier	Glass	Silica(Amorphous)A	60676-86-0		175.434	mg	780450	492016
				Supplier	Glass	Silica(Amorphous)B	7631-86-9		27.997	mg	115320	78520
Wire_AG Si TYPE_MKE	Bonding Wire	0.598	mg	Supplier	Non-metals	Carbon Black	1333-86-4		1.513	mg	6230	4242
				Supplier	Metals	Silver	7440-22-4		0.574	mg	960000	1611
				Supplier	Metals	Others	Proprietary		0.024	mg	40000	67
Plating anode_Pure Tin_Nuo Nengda	M-011 Other inorganic materials	1.438	mg	Supplier	Metals	Tin	7440-31-5		1.438	mg	1000000	4033
Leadframe_C194+Ag_HDS	Copper & its alloys	97.500	mg	Supplier	Metals	Iron	7439-89-6		2.132	mg	21865	5979
				Supplier	Non-metals	Phosphorus	7723-14-0		0.071	mg	730	200
				Supplier	Metals	Zinc	7440-66-6		0.110	mg	1125	308
				Supplier	Metals	Copper	7440-50-8		89.040	mg	913235	249720
				Supplier	Metals	Silver	7440-22-4		6.143	mg	63000	17227
				JIG-R	Metals	Lead	7439-92-1		0.004	mg	45	12