

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32F051R8T6 STM32F051R8T6TR	E05W*440CCC2	A	9991	2019-05-04
	Amount	UoM	Unit type	ST ECOPACK Grade
	349.69	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	
LQFP	10x10x1.4	64		
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-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	E05W*440CCC2				4999999.0	1000001.3
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	9.090	mg	supplier	die	Silicon (Si)	7440-21-3		8.805	mg	968647	25180
				supplier	metallization	Aluminium (Al)	7429-90-5		0.019	mg	2090	54
				supplier	metallization	Copper (Cu)	7440-50-8		0.097	mg	10671	277
				supplier	metallization	Cobalt (Co)	7440-48-4		0.018	mg	1980	51
				supplier	metallization	Titanium (Ti)	7440-32-6		0.005	mg	550	14
				supplier	metallization	Tungsten (W)	7440-33-7		0.011	mg	1210	31
				supplier	Passivation	Silicon Nitride	12033-89-5		0.013	mg	1430	37
				supplier	Passivation	Silicon Oxide	7631-86-9		0.122	mg	13421	349
Leadframe A25060		98.000	mg		Leadframe	Copper (Cu)	7440-50-8		92.414	mg	943000	264275
					Leadframe	Nickel (Ni)	7440-02-0		3.136	mg	32000	8968
					Leadframe	Silicon (Si)	7440-21-3		0.711	mg	7250	2032
					Leadframe	Magnesium (Mg)	7439-95-4		0.172	mg	1750	490
					Leadframe	Silver (Ag)	7440-22-4		1.568	mg	16000	4484
					Bonding wire	Au	7440-57-5		1.188	mg	990000	3397
Encapsulation (Sumitomo,G631SH)		227.600	mg		Bonding wire	Pd	7440-05-3		0.012	mg	10000	34
					Molding Compound	Epoxy Resin A	Proprietary		4.552	mg	20000	13017
					Molding Compound	Epoxy Resin B	Proprietary		4.552	mg	20000	13017
					Molding Compound	Phenol Resin	Proprietary		12.518	mg	55000	35798
					Molding Compound	Carbon Black	1333-86-4		1.252	mg	5500	3580
					Molding Compound	Silica(Amorphous) A	60676-86-0		170.700	mg	750000	488148
					Molding Compound	Silica(Amorphous) B	7631-86-9		34.026	mg	149500	97304
					Matte Sn	Tin (Sn)	7440-31-5		13.799	mg	999900	39460
External Plating		13.800	mg		Matte Sn	Impurities	Proprietary		0.001	mg	100	4