

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32F401RDT7 STM32F401RDT7TR	E55W*433XXXZ	A	9991	28-10-2023
	Amount	UoM	Unit type	ST ECOPACK Grade
	349.70	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 : add in comments	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFP	10x10	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-14th June 2023				
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	ESSW*433XXXZ				5999999.0	1000001.5				
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	8.600	mg	supplier	die	Silicon (Si)	7440-21-3		8.164	mg	949302	23346				
				supplier	metallization	Aluminium (Al)	7429-90-5		0.030	mg	3488	86				
				supplier	metallization	Copper (Cu)	7440-50-8		0.198	mg	23023	566				
				supplier	metallization	Cobalt (Co)	7440-48-4		0.001	mg	116	3				
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.028	mg	3256	80				
				supplier	metallization	Tungsten (W)	7440-33-7		0.089	mg	10349	255				
				supplier	Passivation	Silicon Nitride	12033-89-5		0.023	mg	2674	66				
				supplier	Passivation	Silicon Oxide	7631-86-9		0.067	mg	7791	192				
				Leadframe (C7025 + Ag)	Copper & its alloys	100.000	mg	Supplier	Leadframe	Copper (Cu)	7440-50-8		91.900	mg	919000	262797
								Supplier	Leadframe	Nickel (Ni)	7440-02-0		3.100	mg	31000	8865
Supplier	Leadframe	Silicon (Si)	7440-21-3						1.200	mg	12000	3432				
Supplier	Leadframe	Magnesium (Mg)	7439-95-4						0.300	mg	3000	858				
Supplier	Leadframe	Silver (Ag)	7440-22-4						3.500	mg	35000	10009				
Glue Epoxy (CRM-1076WA)	Precious metals	1.700	mg	Supplier	Glue or tape	Silver Powder	7440-22-4		1.299	mg	764000	3714				
				Supplier	Glue or tape	Bisphenol F Type Epoxy Resin	9003-36-5		0.051	mg	30000	146				
				Supplier	Glue or tape	Epoxy resin	Proprietary		0.102	mg	60000	292				
				Supplier	Glue or tape	Hardener	Proprietary		0.051	mg	30000	146				
				Supplier	Glue or tape	Ethylene dimethacrylate	97-90-5		0.128	mg	75000	365				
				Supplier	Glue or tape	1,4-Cyclohexanedimethanol diglycidyl ether	14228-73-0		0.051	mg	30000	146				
				Supplier	Glue or tape	Dicyandiamide	461-58-5		0.009	mg	5500	27				
				Supplier	Glue or tape	1,1-Di(t-butylperoxy)cyclohexane	3006-86-8		0.009	mg	5500	27				
Bonding wire (Au)	Precious metals	1.700	mg	Supplier	Bonding wire	Gold	7440-57-5		1.680	mg	988500	4805				
				Supplier	Bonding wire	Palladium	7440-05-3		0.020	mg	11500	56				
Encapsulation (EME-G6315H)	M-011 Other inorganic materials	223.900	mg	Supplier	Molding Compound	2,2'-(3,3',5,5'-Tetramethyl-(1,1'-biphenyl))-4,4'	85954-11-6		8.956	mg	40000	25611				
				Supplier	Molding Compound	Epoxy resin	Proprietary		4.478	mg	20000	12805				
				Supplier	Molding Compound	Phenol Resin	Proprietary		16.793	mg	75000	48020				
				Supplier	Molding Compound	Silica(Amorphous) A	60676-86-0		158.857	mg	709500	454267				
				Supplier	Molding Compound	Silica(Amorphous) B	7631-86-9		33.585	mg	150000	96039				
External Plating (Sn)	M-011 Other inorganic materials	13.800	mg	Supplier	Molding Compound	Carbon black	1333-86-4		1.231	mg	5500	3521				
				Supplier	Matte Sn	Tin (Sn)	7440-31-5		13.799	mg	999900	39458				
				Supplier	Matte Sn	Impurities	-		0.001	mg	100	4				