


Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32F778AIY6TR	T28Z*451XXXZ	A	996S	2017-10-11
	Amount	UoM	Unit type	ST ECOPACK Grade
	16.78	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
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Tin/Silver/Copper/Nickel(SACN12505)	NAC	NAC		

Package Designator	Size	Nbr of instances	Shape	
WLCSP	Not Applicable	81	No lead	
Comment	Package : A02T WLCSP 81L DIE 421 R 9X9 P 0.4 MM 8558988			

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	T282*451XXXZ				8999999.0	1000071.2
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	11.720	mg	supplier	die	Silicon (Si)	7440-21-3		11.055	mg	943259	658820
				supplier	metallization	Aluminium (Al)	7429-90-5		0.047	mg	4010	2801
				supplier	metallization	Copper (Cu)	7440-50-8		0.302	mg	25768	17998
				supplier	metallization	Cobalt (Co)	7440-48-4		0.001	mg	85	60
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.042	mg	3584	2503
				supplier	metallization	Tungsten (W)	7440-33-7		0.136	mg	11604	8105
				supplier	Passivation	Silicon Nitride	12033-89-5		0.035	mg	2986	2086
Plating Seed layer 1	M-011 Other inorganic materials	0.015	mg	supplier	Passivation	Silicon Oxide	7631-86-9		0.102	mg	8703	6079
				supplier	Alloy	Ti	7440-32-6		0.003	mg	200963	178
				supplier	Alloy	Cu	7440-50-8		0.012	mg	799037	709
Re-passivatipon layer	M-011 Other inorganic materials	0.120	mg	supplier	Polymer	4-Butyrolactone	96-48-0		0.108	mg	900000	6424
				supplier	Polymer	1-Methoxy-2-propyl acetate	108-65-6		0.012	mg	100000	714
Redistribution Layer	M-011 Other inorganic materials	0.238	mg	supplier	Alloy	Cu	7440-50-8		0.238	mg	1000000	14181
Plating Seed layer 2	M-011 Other inorganic materials	0.008	mg	supplier	Alloy	Ti	7440-32-6		0.002	mg	200963	102
				supplier	Alloy	Cu	7440-50-8		0.007	mg	799037	405
Re-passivatipon layer	M-011 Other inorganic materials	0.095	mg	supplier	Polymer	4-Butyrolactone	96-48-0		0.086	mg	900000	5107
				supplier	Polymer	1-Methoxy-2-propyl acetate	108-65-6		0.010	mg	100000	567
UBM	M-011 Other inorganic materials	0.292	mg	supplier	Alloy	Cu	7440-50-8		0.292	mg	1000000	17406
Solder ball	Solder	3.790	mg	supplier	Solder	Sn	7440-31-5		3.724	mg	982500	221937
				supplier	Solder	Ag	7440-22-4		0.045	mg	12000	2711
				supplier	Solder	Cu	7440-50-8		0.019	mg	5000	1129
Back Side Coating	M-011 Other inorganic materials	0.502	mg	supplier	Solder	Ni	7440-02-0		0.002	mg	500	113
				supplier	Polymer	Polybutylene terephthalate (PBT)	25038-59-9		0.326	mg	650000	19458
				supplier	Polymer	Silica	Proprietary		0.098	mg	195000	5837
				supplier	Polymer	Proprietary Material-Other Epoxy resins	Proprietary		0.038	mg	75000	2245
				supplier	Polymer	Proprietary Material-Other Acrylic resins	Proprietary		0.038	mg	75000	2245
				supplier	Polymer	Carbon black	1333-86-4		0.003	mg	5000	150