XILINX®

PK720 (v1.0) June 5, 2015

100% Material Declaration Data Sheet for UltraScale FLVA1517

Average Weight: 23.2422g

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Silicon Die					**0.761099**	**3.275%**
	Silicon (Si)	7440-21-3	100.00	Basis	0.761099	
Interposer die					**0.178526**	**0.768%**
	Silicon (Si)	7440-21-3	100.00	basis	0.178526	
Micro-bump					**0.042292**	**0.182%**
	Copper (Cu)	7440-50-8	54.80	metal	0.023176	
	Nickel (Ni)	7440-02-0	22.69	metal	0.009594	
	Tin (Sn)	7440-31-5	21.87	metal	0.009250	
	Silver (Ag)	7440-22-4	0.64	metal	0.000272	
Micro-bump underfill					**0.038875**	**0.167%**
	Amorphous silica	trade secret	46.87	Filler	0.018220	
	Amine compound	trade secret	20.84	Glue	0.008100	
	Epoxy resin compound-A	trade secret	15.63	Glue	0.006075	
	Epoxy resin compound-B	trade secret	15.63	Glue	0.006075	
	Epoxy resin compound-C	trade secret	1.04	Glue	0.000405	
C4 Bump					**0.002070**	**0.009%**
	Copper (Cu)	7440-50-8	70.73	metal	0.001464	
	Tin (Sn)	7440-31-5	28.53	metal	0.000591	
	Silver (Ag)	7440-22-4	0.75	metal	0.000015	
C4 Bump Underfill					**0.115000**	**0.495%**
	Bisphenol F/ epichlorohydrin copolymer	9003-36-5	22.00	basis	0.025300	
	Silicon dioxide	60676-86-0	72.00	basis	0.082800	
	Carbon black	1333-86-4	1.00	basis	0.001150	
	Additives	trade secret	5.00	Additives	0.005750	
Molding compound					**0.096193**	**0.414%**
	Silica filler (SiO2)	trade secret	86.02	Filler	0.082746	
	Epoxy resin	trade secret	8.60	Glue	0.008275	
	Hardener resin	trade secret	5.38	Glue	0.005172	

© Copyright 2015 Xilinx, Inc. XILINX, the Xilinx logo, Virtex, Spartan, ISE, and other designated brands included herein are trademarks of Xilinx in the United States and other countries. All other trademarks are the property of their respective owners

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Solder Paste					**0.027087**	**0.117%**
	Tin (Sn)	7440-31-5	96.50	metal	0.026139	
	Silver (Ag)	7440-22-4	3.00	metal	0.000813	
	Copper (Cu)	7440-50-8	0.50	metal	0.000135	
Capacitor 1					**0.051200**	**0.220%**
	Titanium Dioxide	13463-67-7	15.11		0.007736	
	Misc	N/A	5.04		0.002580	
	Ni	7440-02-0	33.44	Inner electrode	0.017121	
	Cu	7440-50-8	11.87	Out electrode	0.006077	
	Silicon Dioxide	7631-86-9	1.06		0.000543	
	Diboron trioxide	1303-86-2	0.26		0.000133	
	Ni	7440-02-0	0.81	Plating1	0.000415	
	Sn	7440-31-5	2.19	Plating2	0.001121	
	Other	trade secret	30.22		0.015473	
Capacitor 2					**0.017607**	**0.076%**
	BaTiO3 type	12047-27-7	51.10	Ceramic	0.008997	
	Copper (Cu)	7440-50-8	27.00	Inner electrode	0.004754	
	Nickel (Ni)	7440-02-0	16.90	Out electrode	0.002976	
	Nickel (Ni)	7440-02-0	2.00	Plating1	0.000352	
	Tin (Sn)	7440-31-5	3.00	Plating2	0.000528	
Lid					**12.343654**	**53.109%**
	Copper (Cu)	7440-50-8	99.64	Main material	12.300047	
	Nickel (Ni)	8049-31-8	0.36	Main material	0.043607	
Lid Adhesive					**0.045000**	**0.194%**
	Silica,Vitreous	60676-86-0	60.00	Main material	0.027000	
	Unsaturated Cyclic Siloxane Polymer	trade secret	30.00	Main material	0.013500	
	Hydrocarbon Synthetic Rubber	trade secret	8.00	Main material	0.003600	
	Boron Nitride	trade secret	1.00	Main material	0.000450	
	Carbon Black	1333-86-4	0.50	Main material	0.000225	
	Toluene	108-88-3	0.50	Main material	0.000225	
Lid TIM					**0.260000**	**1.119%**
	Aluminum oxide	1344-28-1	85.00	Main material	0.221000	
	Zinc oxide	1314-13-2	5.00	Main material	0.013000	
	Silicone	Confidential	9.00	Main material	0.023400	
	Others	Confidential	1.00	Main material	0.002600	

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Solder Ball					**1.507248**	**6.485%**
	Tin (Sn)	7440-31-5	96.50	Main material	1.454494	
	Silver (Ag)	7440-22-4	3.00	Main material	0.045217	
	Copper (Cu)	7440-50-8	0.50	Main material	0.007536	
Substrate					**7.756300**	**33.372%**
	Copper (Cu)	7440-50-8	33.94		2.632275	
	Tin (Sn)	7440-31-5	0.72		0.056063	
	Lead (Pb)	7439-92-1	0.00		0.000008	
	Silver (Ag)	7440-22-4	0.02		0.001743	
	BT Core	N/A	52.49		4.071435	
	ABF	N/A	11.62		0.901276	
	Solder Mask	N/A	1.21		0.093500	

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
6/5/2015	1.0	Initial Xilinx release

Notice of Disclaimer

Xilinx regards this materials data to be correct but makes no guarantee as to its accuracy or completeness, including, but not limited to, with respect to its compliance with applicable environmental laws and regulations. Xilinx subcontracts the production, test and assembly of hardware devices to independent third-party vendors and materials suppliers (“Contractors”). All data provided hereunder is based on information received from Contractors. Xilinx has not independently verified the accuracy or completeness of this information which is provided solely for your reference in connection with the use of Xilinx products.