



PK484 (v1.1) September 28,
2012

100% Material Declaration Data Sheet FF1154

Average Weight: 13.5539g

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Silicon Die (FPGA)				Silicon IC	0.821184	6.059
	Doped silicon (Si)	7440-21-3	100.00	Basis	0.821184	
Solder Bump				Die to package	0.042757	0.315
	Tin (Sn)	7440-31-5	63.00	Basis	0.026937	
	Lead (Pb)	7439-92-1	37.00	Basis	0.015820	
Die Underfill					0.090000	0.664
	Bisphenol F-type liquid epoxy resin	9003-36-5	20.00	Basis	0.018000	
	Phenolic resin	Trade secret	15.00	Basis	0.013500	
	Bisphenol A-type liquid epoxy resin	25068-38-6	5.00	Basis	0.004500	
	Amine type accelerator	Trade secret	5.00	Basis	0.004500	
	Silicon dioxide	60676-86-0	51.50	Basis	0.046350	
	Carbon black	1333-86-4	1.00	Basis	0.000900	
	Additives	Trade secret	2.50	Basis	0.002250	
Solder Balls					1.099324	8.111
	Tin (Sn)	7440-31-5	63.00	Main material	0.692574	
	Lead (Pb)	7440-92-1	37.00	Main material	0.406750	
Substrate					4.153196	30.642
	Cu	7440-50-8	37.27	Main Material	1.547927	
	Tin	7440-31-5	1.69	Main Material	0.069984	
	Lead	7439-92-1	0.29	Main Material	0.012001	
	Silver	7440-22-4	0.04	Main Material	0.001595	
	BT Core	N/A	40.70	Main Material	1.6905	
	ABF	N/A	18.88	Main Material	0.784	
	Soldermask	N/A	1.14	Main Material	0.047189	

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Solder Paste					0.015000	0.111
	Tin (Sn)	7440-31-5	96.50	Basis	0.014475	
	Silver (Ag)	7440-22-4	3.00	Basis	0.000450	
	Copper (Cu)	7440-50-8	0.50	Basis	0.000075	
Capacitor					0.042000	0.310
	Ceramic (BaTiO3 type)	Trade secret	61.80	Ceramic	0.025956	
	Inner electrode (Ni)	7440-02-0	27.00	Inner electrode	0.011340	
	Outer electrode (Cu)	7440-50-8	9.90	Outer electrode	0.004158	
	Plating1 (Ni)	7440-02-0	0.40	Plating1	0.000168	
	Plating2 (Sn)	7440-31-5	0.90	Plating2	0.000378	
Capacitor					0.031201	0.230
	Ceramic (BaTiO3 type)	Trade secret	67.40	Ceramic	0.021029	
	Inner electrode (Ni)	7440-02-0	17.00	Inner electrode	0.005304	
	Outer electrode (Cu)	7440-50-8	13.80	Outer electrode	0.004306	
	Plating1 (Ni)	7440-02-0	0.50	Plating1	0.000156	
	Plating2 (Sn)	7440-31-5	1.30	Plating2	0.000406	
Capacitor					0.007200	0.053
	Ceramic (BaTiO3 type)	Trade secret	66.00	Ceramic	0.004752	
	Inner electrode (Ni)	7440-02-0	2.67	Inner electrode	0.000192	
	Outer electrode (Cu)	7440-50-8	23.33	Outer electrode	0.001680	
	Plating1 (Ni)	7440-02-0	2.33	Plating1	0.000168	
	Plating2 (Sn)	7440-31-5	5.67	Plating2	0.000408	
Heat Sink					7.100000	52.384
	Copper (Cu)	7440-50-8	97.25	Main material	6.904750	
	Nickel (Ni)	7440-02-0	2.75	Main material	0.195250	
Heat Sink Adhesive					0.152000	1.121
	Aluminum oxide(Al2O3)	1344-28-1	70.00	Main material	0.106400	
	Zinc oxide (ZnO)	1314-13-2	15.00	Main material	0.022800	
	Silicone	Trade Secret	15.00	Main material	0.022800	
	Additives	Trade Secret		Additive		

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
08/10/11	1.0	Initial Xilinx release.
09/28/12	1.1	Update Substrate component

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