



PK478 (v1.1) September 28, 2012

# 100% Material Declaration Data Sheet FF1923

**Average Weight: 28.3394 g**

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
<b>Silicon Die (FPGA)</b>				Silicon IC	<b>0.785000</b>	<b>2.770</b>
	Doped silicon	7440-21-3	100.00	Basis	0.785000	
<b>Solder Bump</b>				Die to package	<b>0.064920</b>	<b>0.229</b>
	Tin	7440-31-5	63.00	Basis	0.040900	
	Lead	7439-92-1	37.00	Basis	0.024020	
<b>Die Underfill</b>					<b>0.100000</b>	<b>0.353</b>
	Bisphenol F-type liquid epoxy resin	9003-36-5	20.00	Basis	0.020000	
	Phenolic resin	Trade secret	15.00	Basis	0.015000	
	Bisphenol A-type liquid epoxy resin	25068-38-6	5.00	Basis	0.005000	
	Amine type accelerator	Trade secret	5.00	Basis	0.005000	
	Silicon dioxide	60676-86-0	51.50	Basis	0.051500	
	Carbon black	1333-86-4	1.00	Basis	0.001000	
	Additives	Trade secret	2.50	Basis	0.002500	
<b>Solder Balls</b>					<b>1.827000</b>	<b>6.447</b>
	Tin (Sn)	7440-31-5	63.00	Base metal	1.151010	
	Lead (Pb)	7439-92-1	37.00	Base metal	0.675990	
<b>Substrate</b>					<b>7.128284</b>	<b>25.153</b>
	Cu	7440-50-8	36.17	Main Material	2.578435	
	Tin	7440-31-5	0.59	Main Material	0.042230	
	Lead	7439-92-1	0.19	Main Material	0.013254	
	Silver	7440-22-4	0.01	Main Material	0.000657	
	BT Core	N/A	34.66	Main Material	2.470500	
	ABF	N/A	27.27	Main Material	1.944000	
	Soldermask	N/A	1.11	Main Material	0.079208	

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
<b>Solder Paste</b>					<b>0.028400</b>	<b>0.100</b>
	Tin	7440-31-5	96.50	Basis	0.027406	
	Silver	7440-22-4	3.00	Basis	0.000852	
	Copper	7440-50-8	0.50	Basis	0.000142	
<b>Capacitor</b>					<b>0.056000</b>	<b>0.198</b>
	Ceramic (BaTiO3 type)	Trade secret	61.80	Ceramic	0.034608	
	Inner electrode (Ni)	7440-02-0	27.00	Inner electrode	0.015120	
	Outer electrode (Cu)	7440-50-8	9.90	Outer electrode	0.005544	
	Plating1 (Ni)	7440-02-0	0.40	Plating1	0.000224	
	Plating2 (Sn)	7440-31-5	0.90	Plating2	0.000504	
<b>Capacitor</b>					<b>0.023400</b>	<b>0.083</b>
	Ceramic (BaTiO3 type)	Trade secret	67.40	Ceramic	0.015772	
	Inner electrode (Ni)	7440-02-0	17.00	Inner electrode	0.003978	
	Outer electrode (Cu)	7440-50-8	13.80	Outer electrode	0.003229	
	Plating1 (Ni)	7440-02-0	0.50	Plating1	0.000117	
	Plating2 (Sn)	7440-31-5	1.30	Plating2	0.000304	
<b>Capacitor</b>					<b>0.031200</b>	<b>0.110</b>
	Ceramic (BaTiO3 type)	Trade secret	66.00	Ceramic	0.020261	
	Inner electrode (Ni)	7440-02-0	2.67	Inner electrode	0.005990	
	Outer electrode (Cu)	7440-50-8	23.33	Outer electrode	0.004390	
	Plating1 (Ni)	7440-02-0	2.33	Plating1	0.000159	
	Plating2 (Sn)	7440-31-5	5.67	Plating2	0.000399	
<b>Capacitor</b>					<b>0.007200</b>	<b>0.025</b>
	Ceramic (BaTiO3 type)	Trade secret	61.80	Ceramic	0.004752	
	Inner electrode (Ni)	7440-02-0	27.00	Inner electrode	0.000192	
	Outer electrode (Cu)	7440-50-8	9.90	Outer electrode	0.001680	
	Plating1 (Ni)	7440-02-0	0.40	Plating1	0.000168	
	Plating2 (Sn)	7440-31-5	0.90	Plating2	0.000408	
<b>Heat Sink</b>					<b>18.108000</b>	<b>63.897</b>
	Copper	7440-50-8	97.25	Main material	17.954082	
	Nickel	7440-02-0	2.75	Main material	0.153918	
<b>Heat Sink Adhesive</b>					<b>0.180000</b>	<b>0.635</b>
	Aluminum oxide	1344-28-1	70.00	Main material	0.126000	
	Zinc oxide	1314-13-2	15.00	Main material	0.027000	
	Organic Silicon compound	Trade secret	15.00	Main material	0.027000	

## Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
05/06/11	1.0	Initial Xilinx release.
09/28/12	1.1	Updated Substrate Component

## 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.