

# 100% Material Declaration Data Sheet FF1513

**Average Weight: 18.6260g**

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</b>					<b>1.061350</b>	<b>5.698</b>
	Silicon	7440-21-3	100.00		1.061350	
<b>Solder Bump</b>					<b>0.054318</b>	<b>0.292</b>
	Tin	7440-31-5	63.00		0.034220	
	Lead	7439-92-1	37.00		0.020098	
<b>Underfill</b>					<b>0.044000</b>	<b>0.236</b>
	Silica	60676-86-0	70.00		0.030800	
	Epoxy Resin A	9003-36-5	20.00		0.008000	
	Epoxy Resin B	25068-38-6	3.00		0.001320	
	Hardener	19900-65-3	7.00		0.003080	
<b>Heat Spreader</b>					<b>3.000000</b>	<b>16.107</b>
	Copper	7440-50-8	99.90		2.997000	
	Nickel	7440-02-0	0.10		0.003000	
<b>Heat Spreader Adhesive</b>					<b>0.053000</b>	<b>0.285</b>
	Organopolysiloxane mixture	N/A	100.00		0.053000	
<b>Substrate</b>					<b>13.323982</b>	<b>71.534</b>
	Copper	7440-50-8	47.61	Metal layer	6.250280	
	Nickel	7440-02-0	0.52	Metal layer	0.069285	
	Gold	7440-57-5	0.12	Metal layer	0.015989	
	Glass fiber	N/A	10.50		1.399018	
	Halogen fire retardant	N/A	5.25		0.699509	
	BT (core)	N/A	28.00		3.730715	
	Solder mask	N/A	8.70		1.159186	
<b>Solder Balls</b>					<b>1.089345</b>	<b>5.849</b>
	Tin	7440-31-5	63.00		0.686287	
	Lead	7439-92-1	37.00		0.403058	

## Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
3/23/06	1.0	Initial Xilinx release.
6/09/06	1.1	100% Material Declaration.
9/11/06	1.2	Updated substance weights.
9/28/06	1.3	Updated component descriptions and weights.
7/20/10	1.4	Updated Heat Spreader substance description.

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