

## **100% Material Declaration Data Sheet** FF1517

**Average Weight: 18.99g** 

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Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Silicon Die					1.039	5.46
	Silicon	7440-21-3	100.00		1.039	
Solder Bump					0.051	0.27
	Tin	7440-31-5	63.00		0.032	
	Lead	7439-92-1	37.00		0.018	
Underfill					0.074	0.39
	Silica	60676-86-0	70.00		0.051	
	Epoxy Resin A	9003-36-5	20.00		0.014	
	Epoxy Resin B	25068-38-6	3.00		0.002	
	Hardener	19900-65-3	7.00		0.005	
Heat Spreader					9.000	47.37
	Copper	7440-50-8	99.90		8.991	
	Nickel	7440-02-0	0.10		0.009	
Heat Spreader Adhesive					0.150	0.79
	Organopolysiloxane mixture	N/A	100.00		0.150	
Substrate					7.250	38.16
	Copper	7440-50-8	47.15	Metal layer	3.418	
	Nickel	7440-02-0	0.53	Metal layer	0.038	
	Gold	7440-57-5	0.12	Metal layer	0.008	
	Glass fiber	N/A	10.30		0.746	
	Halogen fire retardant	N/A	5.25		0.380	
	BT (core)	N/A	28.00		2.030	•
	Solder mask	N/A	8.65		0.627	
Solder Balls					1.433	7.54
	Tin	7440-31-5	63.00		0.902	
	Lead	7439-92-1	37.00		0.530	

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## 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.	
7/13/06	1.1	100% Material Declaration.	
9/28/06	1.2	Updated component descriptions and weights.	
5/21/08	1.3	Updated Chromium CAS # (was 7440-22-4).	
7/20/10	1.4	Updated Heat Spreader substance description.	

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