



PK542 (v1.1) January 11,  
2012

## 100% Material Declaration Data Sheet for Spartan®-3/-3E/-3A FGG456 (Cu Wire) Package

**Average Weight: 2.3000 g**

Component	Substance Description	CAS# or Description	% of Component	Use in Product	Component Weight/ Substance Weight (in grams)	Component % of Total
Silicon Die					<b>0.069267</b>	<b>3.012</b>
	Silicon	7440-21-3	100.00		0.069267	
Die Attach Material					<b>0.012350</b>	<b>0.537</b>
	Silver	7440-22-4	77.50		0.009571	
	Bismaleimide monomer	Trade Secret	15.00		0.001853	
	Acrylate monomer	Trade Secret	7.50		0.000926	
Mold Compound					<b>0.810917</b>	<b>35.257</b>
	Epoxy Resin	Trade Secret	5.00		0.040546	
	Phenol Resin	Trade Secret	3.00		0.024328	
	Phenol Novolac	9003-35-4	3.00		0.024328	
	Metal Hydroxide	Trade Secret	3.00		0.024328	
	Carbon black	1333-86-4	0.30		0.002433	
	Silica fused	60676-86-0	70.40		0.570886	
	Silica fused	7631-86-9	15.00		0.121638	
	Silica, crystalline	14808-60-7	0.30		0.002433	
Copper Wire					<b>0.005455</b>	<b>0.237</b>
	Copper	7440-50-8	97.28		0.005307	
	Palladium	7440-05-3	2.70		0.000147	
	Impurities	NA	0.02		0.000001	
Solder Balls					<b>0.381957</b>	<b>16.607</b>
	Tin (Sn)	7440-31-5	95.50		0.364769	
	Silver (Ag)	7440-22-4	4.00		0.015278	
	Copper (Cu)	7440-50-8	0.50		0.001910	

Component	Substance Description	CAS# or Description	% of Component	Use in Product	Component Weight/ Substance Weight (in grams)	Component % of Total
Substrate					1.020054	44.350
	Copper (Cu)	7440-50-8	47.61		0.485637	
	Gold (Au)	7440-57-5	0.23		0.002375	
	Nickel (Ni)	7440-02-0	1.79		0.018270	
	Copper Foil	7440-50-8	6.46		0.065859	
	BT (core)	Trade Secret 21645-51-2 65997-17-3 7440-50-8 105391-33-1 25722-66-1	38.02		0.387834	
	Solder mask	14807-96-6 7727-43-7 7631-86-9 34590-94-8 Trade Secret 85954-11-6	5.89		0.060079	

## Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
11/17/11	1.0	Initial Xilinx release.
01/11/12	1.1	CAS# update.

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