Device Material Content

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Package: 484 fcBGA
Total Device Weight 2742.37 Milligrams

Package Code: FBG484
Products: LFMNX-50

Assembly: ASEK
Size (mm): 19 x 19
Lead pitch (mm): 0.8
MSL: 3
Reflow max (ºC): 250

	% of Total Pkg. Wt.	Weight (mg)	% of Total Pkg. Wt.	Weight (mg)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.55%	42.49	1.55%	42.485	Silicon chips	7440-21-3	100.00%	Dual die Die size: 4.80 x 5.19mm (Jedi) Die size: 5.23 x 6.26mm (Sentry)
Underfill	0.26%	6.99	0.08%	2.098	Bisphenol F type liquid epoxy resin	9003-36-5	30.00%	Namics ASE-UA59
			0.01%	0.175	Bisphenol A type liquid epoxy resin	25068-38-6	2.50%	
			0.02%	0.524	Amine type hardener	-	7.50%	
			0.15%	3.986	Silicon dioxide	60676-86-0	57.00%	
			0.00%	0.035	Carbon Black	1333-86-4	0.50%	
			0.01%	0.175	Additives	-	2.50%	
Adhesive	0.73%	19.99	0.62%	16.993	Methyltrimethoxysilane treated aluminum oxide	-	85.00%	Doit Technical SE4450
			0.11%	2.999	Dimethyl Siloxane	68083-19-2	15.00%	
TIM (Thermal Compound)	0.73%	19.99	0.58%	15.994	Aluminum	7429-90-5	80.00%	Shin-Etsu G797
			0.15%	3.998	Zinc Oxide	1314-13-2	20.00%	
Solder Balls	8.54%	234.20	8.24%	225.884	Tin (Sn)	7440-31-5	96.45%	PMT Sn96.45/Ag3.0/Cu0.5/Ni0.05
			0.26%	7.026	Silver (Ag)	7440-22-4	3.00%	
			0.04%	1.171	Copper (Cu)	7440-50-8	0.50%	
			0.00%	0.117	Nickel (Ni)	7440-02-0	0.05%	
Substrate	25.20%	690.98	5.64%	154.740	Glass Cloth	65997-17-3	22.39%	Core Material Showa Denko MCL-E-705G
			3.30%	90.420	Silica,vitreous	60676-86-0	13.09%	
			4.71%	129.260	Thermosetting Resin	-	18.71%	
			8.48%	232.430	Copper	7440-50-8	33.64%	
			0.05%	1.330	Tin	7440-31-5	0.19%	
			0.00%	0.040	Silver	7440-22-4	0.01%	
			0.88%	24.040	Silicon dioxide	7631-86-9	3.48%	Build up Material Ajinomoto ABF-GX92
			0.38%	10.540	Bisphenol A epoxy resin	25068-38-6	1.53%	
			0.25%	6.980	Bisphenol F epoxy resin	9003-36-5	1.01%	
			0.06%	1.560	Polyfunctional aromatic epoxy resin	-	0.23%	
			0.05%	1.300	Coal tar naphtha	64742-94-5	0.19%	
			0.02%	0.650	Cyclohexanone	108-94-1	0.09%	
			0.00%	0.130	Toluene	108-88-3	0.02%	
			0.00%	0.130	Methyl ethyl ketone	78-93-3	0.02%	
			0.00%	0.060	Naphthalene	91-20-3	0.01%	
			0.00%	0.060	Trimethylbenzene	25551-13-7	0.01%	
			1.26%	34.640	Confidential	-	5.01%	
			0.10%	2.670	N,N-Diglycidyl amino phenyl glycidyl ether	110656-67-2	0.39%	
Solder Mask	0.91%	25.08	0.39%	10.780	Epoxy Resins	-	42.98%	Showa Denko SR7300GR
			0.16%	4.520	Barium Sulfate	7727-43-7	18.02%	
			0.06%	1.760	Silica	60676-86-0	7.02%	
			0.01%	0.250	Pigment	-	1.00%	
			0.04%	1.000	Solvent Naphtha	64742-94-5	3.99%	
			0.10%	2.760	2-(2-Ethoxyethoxy)rthyl acetate	112-15-2	11.00%	
			0.08%	2.260	3-methyl-3-methoxybutyl acetate	103429-90-9	9.01%	
			0.02%	0.500	Cyclohexanone	108-94-1	1.99%	
			0.05%	1.250	Organic Material	-	4.98%	
Repassivation Polyimide	0.015%	0.42	0.008%	0.230	N-Methyl-2-pyrrolidone	872-50-4	55.00%	HD4000E
			0.0008%	0.021	Proprietary Monomer	-	5.00%	
			0.0001%	0.002	Methanol	67-56-1	0.50%	
			0.006%	0.165	Non regulated ingredients	-	39.50%	
RDL	0.093%	2.54	0.005%	0.143	Titanium	7440-32-6	5.63%	
			0.087%	2.395	Copper	7440-50-8	94.37%	
UBM	0.025%	0.70	0.005%	0.143	Titanium	7440-32-6	20.55%	
			0.020%	0.553	Copper	7440-50-8	79.45%	
Bump	0.125%	3.43	0.123%	3.365	Tin	7440-31-5	98.20%	Sn98.2/Ag1.8
			0.002%	0.062	Silver	7440-22-4	1.80%	
Plating	8.035%	220.34	8.018%	219.870	Copper	7440-50-8	99.79%	
			0.017%	0.470	Tin	7440-31-5	0.21%	
Heat Spreader	53.79%	1475.20	52.45%	1438.32	Copper (Cu)	7440-50-8	97.50%	Ankuo C1100
			1.34%	36.88	Nickel (Ni)	7440-02-0	2.50%	

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