



## Device Material Content

5555 NE Moore Ct.  
Hillsboro OR 97124  
[custreq@latticesemi.com](mailto:custreq@latticesemi.com)

Assembly: ASEM  
Size (mm): 31 x 31

**Package Code:**

**FN900**

Lead pitch (mm): 1.0

**Package:** 484 fpBGA  
**Total Device Weight** 4.284 Grams

**Products:**

MSL: 3

LFE2/2M

Reflow max (°C): 250

July, 2020

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	1.64%	0.0704	1.64%	0.0704	Silicon chip	7440-21-3	100.00%	Die size: 9.49 x 9.80 mm
<b>Mold Compound</b>	40.50%	1.7350	2.84%	0.1214	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G750SE
			2.03%	0.0867	Phenol Novolac	9003-35-4	5.00%	
			2.03%	0.0867	Metal Hydroxide	-	5.00%	
			0.20%	0.0087	Carbon Black	1333-86-4	0.50%	
			33.41%	1.4314	Silica Fused	60676-86-0	82.50%	
<b>D/A Epoxy</b>	0.24%	0.0102	0.19%	0.00818	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.05%	0.00205	Esters & resins	-	20.00%	
<b>Wire</b>	0.22%	0.0094	0.22%	0.0092	Copper	7440-50-8	98.45%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.55%	
<b>Solder Balls</b>	20.38%	0.8732	19.67%	0.8426	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.61%	0.0262	Silver (Ag)	7440-22-4	3.00%	
			0.10%	0.0044	Copper (Cu)	7440-50-8	0.50%	
<b>Substrate</b>	19.83%	0.8494	6.15%	0.2633	BT Resins	-	31.00%	BT Resin CCL-HL832NX-A*
			13.48%	0.5776	Glass fiber	65997-17-3	68.00%	
			0.20%	0.0085	Bisphenol A	80-05-7	1.00%	
<b>Foil</b>	13.22%	0.5664	11.83%	0.5069	Copper	7440-50-8	89.50%	
			1.32%	0.0566	Nickel plating	7440-02-0	9.99%	
			0.07%	0.0029	Gold plating	7440-57-5	0.50%	
<b>Solder Mask</b>	3.96%	0.1698	2.23%	0.0954	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			0.63%	0.0272	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			0.87%	0.0374	Barium Sulfate	7727-43-7	22.00%	
			0.12%	0.0051	Talc	14807-96-6	3.00%	
			0.02%	0.0008	Naphthalene	91-20-3	0.50%	
			0.09%	0.0039	Trade secret ingredients	-	2.30%	

**Notes:** SVHC: \* 0.20% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.

Lattice regards this materials information 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. Lattice 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. Lattice has not independently verified the accuracy or completeness of this information which is provided solely for your reference in connection with the use of Lattice products.

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July, 2020

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FN900

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LFE2/2M

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	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	1.64%	0.0704	1.64%	0.0704	Silicon chip	7440-21-3	100.00%	Die size: 9.49 x 9.80 mm
<b>Mold Compound</b>	40.50%	1.7350	2.03%	0.0867	Epoxy Resin	-	5.00%	Mold Compound: Hitachi CEL9750ZHF series
			2.03%	0.0867	Phenol Resin	-	5.00%	
			0.08%	0.0035	Carbon Black	1333-86-4	0.20%	
			35.56%	1.5233	Silica	60676-86-0	87.80%	
			0.81%	0.0347	Others	-	2.00%	
<b>D/A Epoxy</b>	0.24%	0.0102	0.19%	0.00818	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.05%	0.00205	Esters & resins	-	20.00%	
<b>Wire</b>	0.22%	0.0094	0.22%	0.0092	Copper	7440-50-8	98.45%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.55%	
<b>Solder Balls</b>	20.38%	0.8732	19.67%	0.8426	Tin (Sn)	7440-31-5	96.50%	Ag3.5
			0.71%	0.0306	Silver (Ag)	7440-22-4	3.50%	
<b>Substrate</b>	19.83%	0.8494	6.15%	0.2633	BT Resins	-	31.00%	BT Resin CCL-HL832NX-A*
			13.48%	0.5776	Glass fiber	65997-17-3	68.00%	
			0.20%	0.0085	Bisphenol A	80-05-7	1.00%	
<b>Foil</b>	13.22%	0.5664	11.83%	0.5069	Copper	7440-50-8	89.50%	
			1.32%	0.0566	Nickel plating	7440-02-0	9.99%	
			0.07%	0.0029	Gold plating	7440-57-5	0.50%	
<b>Solder Mask</b>	3.96%	0.1698	2.23%	0.0954	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			0.63%	0.0272	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			0.87%	0.0374	Barium Sulfate	7727-43-7	22.00%	
			0.12%	0.0051	Talc	14807-96-6	3.00%	
			0.02%	0.0008	Naphthalene	91-20-3	0.50%	
			0.09%	0.0039	Trade secret ingredients	-	2.30%	

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Rev. J



## Device Material Content

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<b>Mold Compound</b>	40.50%	1.7350	2.84%	0.1214	Epoxy Resin	-	7.00%	Mold Compound: Hitachi GE-110
			2.03%	0.0867	Phenol Novolac	9003-35-4	5.00%	
			2.03%	0.0867	Metal Hydroxide	-	5.00%	
			0.20%	0.0087	Carbon Black	1333-86-4	0.50%	
			33.41%	1.4314	Silica Fused	60676-86-0	82.50%	
<b>D/A Epoxy</b>	0.24%	0.0102	0.19%	0.00818	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2300
			0.05%	0.00205	Esters & resins	-	20.00%	
<b>Wire</b>	0.22%	0.0094	0.22%	0.0092	Copper	7440-50-8	98.45%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.55%	
<b>Solder Balls</b>	20.38%	0.8732	19.47%	0.8339	Tin (Sn)	7440-31-5	95.50%	SAC405
			0.82%	0.0349	Silver (Ag)	7440-22-4	4.00%	
			0.10%	0.0044	Copper (Cu)	7440-50-8	0.50%	
<b>Substrate</b>	19.83%	0.8494	6.15%	0.2633	BT Resins	-	31.00%	BT Resin CCL-HL832NX-A*
			13.48%	0.5776	Glass fiber	65997-17-3	68.00%	
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