



## Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 <a href="mailto:custreq@latticesemi.com">custreq@latticesemi.com</a>				<b>Package Code:</b> <b>BG484</b>			Assembly: ASEK Size (mm): 19 x 19 Lead pitch (mm): 0.8 MSL: 3 Reflow max (°C): 260		
<b>Package:</b> <b>484 caBGA</b>		<b>Total Device Weight</b> <b>0.911 Grams</b>		<b>Products:</b> <b>LCMXO3-9400</b>					
November, 2020									
	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:	
Die	1.31%	0.0120			Silicon chip	7440-21-3	100.00%	Die size: 4968 x 5092 um	
Mold Compound	55.50%	0.5055	48.56%	0.4423	Silica	60676-86-0	87.50%	Mold Compound: KE-G1250AHT	
			3.61%	0.0329	Epoxy resin	-	6.50%		
			3.05%	0.0278	Phenol Resin	-	5.50%		
			0.28%	0.0025	Carbon Black	1333-86-4	0.50%		
D/A Epoxy	0.47%	0.0043	0.38%	0.00345	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel 2100A	
			0.09%	0.00086	Esters & resins	-	20.00%		
Wire	0.39%	0.0036	0.38%	0.0035	Copper (Cu)	7440-50-8	96.55%	CuPdAu+	
			0.01%	0.0001	Palladium (Pd)	7440-05-3	3.10%		
			0.00%	0.0000	Gold (Au)	7440-57-5	0.35%		
Solder Balls	12.27%	0.1118	11.84%	0.1079	Tin (Sn)	7440-31-5	96.50%	SAC305	
			0.37%	0.0034	Silver (Ag)	7440-22-4	3.00%		
			0.06%	0.0006	Copper (Cu)	7440-50-8	0.50%		
Substrate	16.53%	0.1506	5.29%	0.0482	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A	
			11.24%	0.1024	Glass fiber	65997-17-3	68.00%		
Foil	5.82%	0.0530	4.77%	0.0434	Copper	7440-50-8	82.00%		
			0.88%	0.0080	Nickel plating	7440-02-0	15.10%		
			0.17%	0.0015	Gold plating	7440-57-5	2.91%		
Solder Mask	3.94%	0.0359	0.93%	0.0084	Solvent naphtha (petroleum)	64742-94-5	23.52%	Solder mask PSR4000 AUS 320	
			0.23%	0.0021	Naphthalene	91-20-3	5.87%		
			0.58%	0.0053	Phosphinooxide derivative	-	14.70%		
			0.58%	0.0053	Talc	14807-96-6	14.70%		
			0.69%	0.0063	Dipropylene glycol monomethyl Ether	34590-94-8	17.63%		
			0.58%	0.0053	Epoxy Resin	85954-11-6	14.70%		
			0.35%	0.0032	Barium Sulfate	7727-43-7	8.88%		

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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Rev. B



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November, 2020

**Package:** 484 caBGA  
**Total Device Weight** 0.917 Grams

**Package Code:**

**BG484**

**Products:**

LCMXO3-9400

**Assembly:** ATP  
Size (mm): 19 x 19

Lead pitch (mm): 0.8

MSL: 3

Reflow max (°C): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	1.49%	0.0137			Silicon chip	7440-21-3	100.00%	Die size: 5.1 x 4.9 x 0.228 mm
<b>Mold Compound</b>	52.67%	0.4830	3.69%	0.0338	Solid Epoxy Resin	-	7.00%	Mold Compound: Hitachi GE-110LS-V
			2.63%	0.0242	Phenol Resin	-	5.00%	
			44.77%	0.4106	Silica	60676-86-0	85.00%	
			1.32%	0.0121	Metal Hydroxide	-	2.50%	
			0.26%	0.0024	Carbon Black	1333-86-4	0.50%	
<b>D/A Epoxy</b>	0.21%	0.0019	0.18%	0.00165	Silver	7440-22-4	87.00%	Die attach epoxy: Henkel QMI-529HT
			0.01%	0.00013	Isobornyl Methacrylate	7534-94-3	7.00%	
			0.001%	0.00001	2-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane	3388-04-3	0.50%	
			0.01%	0.00010	Additive	-	5.00%	
<b>Wire</b>	0.85%	0.0078	0.83%	0.0076	Copper (Cu)	7440-50-8	97.90%	MKE Cu wire(Pd coated), 0.02mm dia
			0.02%	0.0002	Palladium (Pd)	7440-05-3	2.10%	
<b>Solder Balls</b>	18.49%	0.1695	17.84%	0.1636	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.55%	0.0051	Silver (Ag)	7440-22-4	3.00%	
			0.09%	0.0008	Copper (Cu)	7440-50-8	0.50%	
<b>Substrate</b>	16.53%	0.1516	5.29%	0.0485	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A
			11.24%	0.1031	Glass fiber	65997-17-3	68.00%	
<b>Foil</b>	5.82%	0.0533	4.77%	0.0437	Copper	7440-50-8	82.00%	
			0.88%	0.0080	Nickel plating	7440-02-0	15.10%	
			0.17%	0.0016	Gold plating	7440-57-5	2.91%	
<b>Solder Mask</b>	3.94%	0.0361	2.21%	0.0203	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			0.63%	0.0058	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			0.87%	0.0080	Barium Sulfate	7727-43-7	22.00%	
			0.12%	0.0011	Talc	14807-96-6	3.00%	
			0.02%	0.0002	Naphthalene	91-20-3	0.50%	
			0.09%	0.0008	Trade secret ingredients	-	2.30%	

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