Material Declaration Form

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Ordering Code	Production Version	Package Family	Assembly Material Number	Lead Count	Weight (mg)	Manufacturing Country	Halogen Free	EU RoHS	China Rohs	Release Status	Report Version
TMF8820-1A	TE21	OLGA	510840034	12	18.27	Taiwan	YES	YES	YES	FULL	1

Production Version: TE21

Homogenous Material	Weight (mg)	Symbol	Chemical Substance	Input Ratio (%)	CAS Number	Unit Weight (mg)	Unit Weight (%)	Amount (ppm)
Substrate	2.92	Au	Gold	0.50	7440-57-5	0.01460	0.07991	799
		Cu	Copper	55.00	7440-50-8	1.60600	8.79037	87904
		Ni	Nickel	2.00	7440-02-0	0.05840	0.31965	3196
			Bismaleimide Triazine	3.50	35325-39-4	0.10220	0.55939	5594
			Filament Fiber Glass	25.00	65997-17-3	0.73000	3.99562	39956
			Inorganic Filler	14.00	21645-51-2	0.40880	2.23755	22375
		Subtotal:		**100.00**		**2.92000**	**15.98248**	**159825**
Substrate (Solder Mask)	0.35	BaO4S	Barium Sulfate	75.00	7727-43-7	0.26250	1.43678	14368
		SiO2	Silica	1.00	7631-86-9	0.00350	0.01916	192
			Carbon Black	1.00	1333-86-4	0.00350	0.01916	192
			Dipropylene glycol monomethyl ether	18.00	34590-94-8	0.06300	0.34483	3448
			Talc	5.00	14807-96-6	0.01750	0.09579	958
		Subtotal:		**100.00**		**0.35000**	**1.91571**	**19157**

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Homogenous Material	Weight (mg)	Symbol	Chemical Substance	Input Ratio (%)	CAS Number	Unit Weight (mg)	Unit Weight (%)	Amount (ppm)
DAF	0.12	C15H16O2	Epoxy Resin	92.00	25068-38-6	0.11040	0.60427	6043
			4,4'-Diaminodiphenylsulfone	2.00	80-08-0	0.00240	0.01314	131
			Silica Dioxide	6.00	67762-90-7	0.00720	0.03941	394
		Subtotal:		**100.00**		**0.12000**	**0.65681**	**6568**
IC	1.55	Si	Silicon	100.00	7440-21-3	1.55000	8.48385	84839
		Subtotal:		**100.00**		**1.55000**	**8.48385**	**84839**
Adhesive (VCSEL)	0.01	Ag	Silver	80.00	7440-22-4	0.00800	0.04379	438
			Epoxy resin	20.00	24969-06-0	0.00200	0.01095	109
		Subtotal:		**100.00**		**0.01000**	**0.05473**	**547**
VCSEL	0.01	GaAs	Gallium arsenide	100.00	1303-00-0	0.01000	0.05473	547
		Subtotal:		**100.00**		**0.01000**	**0.05473**	**547**

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Homogenous Material	Weight (mg)	Symbol	Chemical Substance	Input Ratio (%)	CAS Number	Unit Weight (mg)	Unit Weight (%)	Amount (ppm)
Adhesive (MLA)	0.02	C12H22O3	Oxetane, 3,3'-[oxybis (methylene)]bis[3-ethyl-	6.71	18934-00-4	0.00134	0.00735	74
		C13H18O2	P-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	2.50	3101-60-8	0.00050	0.00274	27
		C14H20O4	Cycloaliphatic epoxy resin	6.71	2386-87-0	0.00134	0.00735	74
		C15H16O2	Bisphenol A diglycidyl ether resin	80.57	25068-38-6	0.01611	0.08820	882
		C9H20O5Si	3-Glycidoxypropyltrimethoxysilane	2.50	2530-83-8	0.00050	0.00274	27
			Hydroxy-, C9-11-alkyl ethers	1.00	709014-50-6	0.00020	0.00109	11
		Subtotal:		**100.00**		**0.02000**	**0.10947**	**1095**
Glass (MLA)	1.59		Inorganic Glass	100.00	65997-17-3	1.59000	8.70279	87028
		Subtotal:		**100.00**		**1.59000**	**8.70279**	**87028**
Wire	0.07	Au	Gold	100.00	7440-57-5	0.07000	0.38314	3831
		Subtotal:		**100.00**		**0.07000**	**0.38314**	**3831**

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Homogenous Material	Weight (mg)	Symbol	Chemical Substance	Input Ratio (%)	CAS Number	Unit Weight (mg)	Unit Weight (%)	Amount (ppm)
Moldcompound	2.19	C15H16O2	Epoxy Resin	99.00	25068-38-6	2.16810	11.86700	118670
			2,6-Ditert.butyl-4-Methyl	1.00	128-37-0	0.02190	0.11987	1199
		Subtotal:		**100.00**		**2.19000**	**11.98686**	**119869**
Adhesive (Lid Attach)	0.96	SiO2	Silica	20.00	7631-86-9	0.19200	1.05090	10509
		SiO2	Silicon Dioxide	3.00	7631-86-9	0.02880	0.15764	1576
			Carbon Black	1.00	1333-86-4	0.00960	0.05255	525
			Dicyandiamide	16.00	461-58-5	0.15360	0.84072	8407
			Epoxy Resin	50.00	25085-99-8	0.48000	2.62726	26273
			Epoxy resin 2	10.00	2095-03-6	0.09600	0.52545	5255
		Subtotal:		**100.00**		**0.96000**	**5.25452**	**52545**
LCP LID	8.18		Carbon Black	5.00	1333-86-4	0.40900	2.23864	22386
			Glass oxide	60.00	65997-17-3	4.90800	26.86371	268637
			Liquid crystal polymers	35.00	147310-94-9	2.86300	15.67050	156705
		Subtotal:		**100.00**		**8.18000**	**44.77285**	**447729**

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Homogenous Material	Weight (mg)	Symbol	Chemical Substance	Input Ratio (%)	CAS Number	Unit Weight (mg)	Unit Weight (%)	Amount (ppm)
Adhesive (Barrier)	0.3	SiO2	Silica	20.00	7631-86-9	0.06000	0.32841	3284
			Carbon Black	1.00	1333-86-4	0.00300	0.01642	164
			Dicyandiamide	16.00	461-58-5	0.04800	0.26273	2627
			Epoxy resin 1	52.50	25085-99-8	0.15750	0.86207	8621
			Epoxy resin 2	9.50	2095-03-6	0.02850	0.15599	1560
			Silicon dioxide	1.00	67762-90-7	0.00300	0.01642	164
		Subtotal:		**100.00**		**0.30000**	**1.64204**	**16420**
Total:	**18.27**					**18.27**	**100.00000**	**1000000**