



Material Declaration
Statement of Materials, Construction

Product: XRT83VSH316IB-F
Package: 316L L-fpBGA (21x21)

Component		Material			Material Weight %	
Name	Weight (g)	Element/Compound	CAS No.	Weight (g)	/Total Unit	/ Component
1	Die	0.0360	Silicon	7440-21-3	0.0360	2.36 100.00
2	Die Attach	0.0023	Silver	7440-22-4	0.0018	0.12 76.75
			Epoxy resin A	9003-36-5	0.0003	0.02 11.00
			Epoxy resin B	-	0.0001	0.01 6.00
			t-Butylphenyl glycidyl ether	3101-60-8	0.0001	0.01 5.00
			Phenolic Hardener	-	0.0000	0.00 1.00
			Dicyandiamide	461-58-5	0.0000	0.00 0.25
3	Substrate	0.4883	Talc containing no asbestiform fibers	14807-96-6	0.0064	0.42 1.32
			Morpholine derivative	Trade secret	0.0001	0.01 0.02
			Barium Sulfate	7727-43-7	0.0079	0.52 1.61
			Silica,amorphous	7631-86-9	0.0010	0.07 0.21
			Dipropylene Glycol Monomethyl Ether	34590-94-8	0.0086	0.56 1.76
			Naphthalene	91-20-3	0.0006	0.04 0.13
			Copper	7440-50-8	0.1039	6.81 21.27
			Zinc	7440-66-6	0.0000	0.00 0.01
			Chromium	7440-47-3	0.0000	0.00 0.00
			Nickel	7440-02-0	0.0000	0.00 0.01
			Continuous Filament Fiber Glass	65997-17-3	0.0492	3.22 10.07
			Bismaleimide/Triazine	391-33-1/25722-4	0.0313	2.06 6.42
			Epoxy Resin	9003-36-5	0.0228	1.49 4.67
			Inorganic filler	21645-51-2/NA	0.0123	0.81 2.52
			Cu	7440-50-8	0.0303	1.98 6.20
			Ni	7440-02-0	0.0246	1.61 5.04
Cu	7440-50-8	0.1758	11.52 36.00			
Au	7440-57-5	0.0134	0.88 2.74			
4	Mold Compound	0.6390	Silica(Fused)	60676-86-0	0.5732	37.58 89.70
			Epoxy resin	-	0.0351	2.30 5.50
			Phenol resin	-	0.0288	1.89 4.50
			Carbon Black	1333-86-4	0.0019	0.13 0.30
5	Solder Ball	0.3517	Tin	60676-86-0	0.3394	22.25 96.50
			Silver	25550-51-0	0.0106	0.69 3.00
			Copper	1333-86-4	0.0018	0.12 0.50
6	Wire	0.0081	Gold	7440-57-5	0.0081	0.53 99.99
			Impurity	-	0.0000	0.00 0.01
Total Unit Weight:		1.5253				

Component weight is based on homogenous material used to assemble the unit. | Composition derived from the material declaration from vendors.



RoHS Certificate of Compliance

This package is fully RoHS compliant. The table above shows that this package meets the following RoHS requirements for EACH PACKAGE COMPONENT.

RoHS 2 (Recast) 2011/65/EU | Fully Compliant

China RoHS | Fully Compliant

RoHS-6 | Fully Compliant

Non Use of PFOS & PFOA

REACH | Fully Compliant

Halogen-free | Green

Dodd-Frank Wall Street Reform and Consumer Protection Act, July 21, 2010

We comply with this conflict metal free policy that restricts the use of those conflict metals, mining from the Democratic Republic of Congo (DRC) and it's adjoining countries. Exar will not accept product which uses these conflict metals from these areas. We require our suppliers to enforce this policy and be able to identify and verify from their sources of minerals are conflict free. Suppliers are required to report if they or any supplier through their supply chain use any of these conflict metals that are derived from certain conflict minerals originating in the DRC or an adjoining country. Exar Corporation is not aware of any conflict metals to be used in any of their products.

Flammability rating of UL 94-V0

MSL Pb-Free: L4 @ 245°C

EU RoHS Restricted Substance	Allowable Limit (at homogenous material level)
Cadmium & its compounds (Cd)	100 ppm (0.01 weight %)
Hexavalent Chromium & its compounds (Cr(VI))	1000 ppm (0.10 weight %)
Mercury & its compounds (HG)	1000 ppm (0.10 weight %)
Polybrominated biphenyls (PBB)	1000 ppm (0.10 weight %)
Polybrominated diphenyl ethers (PBDE)	1000 ppm (0.10 weight %)
Lead & its compounds (Pb)	1000 ppm (0.10 weight %)

Chiew Mee Foo, QA Manager