

## Material Declaration Data Sheet (MDDS)



Customer	NORDIC
Device Name	nRF52832-QFAA
Published Date	May 05, 2022
Published By	Amkor Technology Philippines, Inc.

Material Type	Material Name	Supplier Name	Material Weight(g)	Material Weight(mg)	Material % in Product	Substance Name	CAS#	Substance % in Material	Substance Weight(g)	Substance Weight(mg)	PPM in Product	
Die	Silicon Die	Customer Consigned	0.005700	5.70	5.45%	Silicon (Si)	7440-21-3	100.00%	0.005700000	5.700000	54493.31	
Leadframe	C194	HDS	0.049300	49.30	47.13%	Iron (Fe)	7439-89-6	2.35%	0.001158550	1.158550	11076.00	
						Phosphorus (P)	7723-14-0	0.03%	0.000014790	0.014790	141.40	
						Zinc (Zn)	7440-66-6	0.12%	0.000059160	0.059160	565.58	
						Copper (Cu)	7440-50-8	97.50%	0.048067500	48.067500	459536.33	
Leadframe Plating	Silver Plating	HDS	0.000900	0.90	0.86%	Silver	7440-22-4	100.00%	0.000900000	0.900000	8604.21	
Die Attach	AMK-06	Henkel	0.000500	0.50	0.48%	Silver	7440-22-4	69.50%	0.000347500	0.347500	3322.18	
						Carbocyclic acrylate	Proprietary	20.00%	0.000100000	0.100000	956.02	
						Bismaleimide resin	Proprietary	5.00%	0.000025000	0.025000	239.01	
						Acrylate	Proprietary	5.00%	0.000025000	0.025000	239.01	
						2-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane	3388-04-3	0.50%	0.000002500	0.002500	23.90	
						Copper (Cu)	7440-50-8	97.50%	0.000292500	0.292500	2796.37	
Bonding Wire	PCC	MKE	0.000300	0.30	0.29%	Palladium (Pd)	7440-05-3	2.50%	0.000007496	0.007496	71.66	
						Silver (Ag)	7440-22-4	0.00%	0.000000005	0.000005	0.04	
						Epoxy Resin	Proprietary	5.00%	0.002250000	2.250000	21510.52	
						Phenol Resin	Proprietary	5.00%	0.002250000	2.250000	21510.52	
Molding Compound	G700	Sumitomo	0.045000	45.00	43.02%	Silica Amorphous A	60676-86-0	70.00%	0.031500000	31.500000	301147.23	
						Silica Amorphous B	7631-86-9	19.00%	0.008550000	8.550000	81739.96	
						Carbon Black	1333-86-4	1.00%	0.000450000	0.450000	4302.10	
						Tin	7440-31-5	100.00%	0.002900000	2.900000	27724.67	
						External Plating	Matte Sn Plating	Sytron	0.002900	2.90	2.77%	
			0.104600	104.60	100.00%				700.00%	0.104600000	104.600000	1000000.00

*Calculated*

*Calculated*

### Disclaimer

The calculators identified in this report are used solely for determining package and weight composition and not for any other purpose, including but not limited to RoHS compliance. These calculators are used at the request of Customer in accordance with Amkor's current Terms and Conditions. Customer acknowledges that certain data used to generate the package and weight composition are provided by third parties and may not be validated and as such, the associated calculations performed herein are unproven and may produce inconclusive results.

All information generated by the use of these calculators is provided "As Is." Amkor makes no warranty or representation, whatsoever, as to the sufficiency or accuracy of any such information it has disclosed hereunder or as to the results to be obtained therefrom and assumes no responsibility arising from any use or misuse thereof.

Note: Data is published based on the "Calculated Weight"