

Material Declaration Data Sheet (MDDS)



Customer	NORDIC
Device Name	NRF52840-QIAA
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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	0.006100	6.10	5.365%	Silicon (Si)	7440-21-3	100.00%	0.00610000	6.10000	53649.96	
Leadframe	C7025	HDS	0.036300	36.30	31.926%	Copper (Cu)	7440-50-8	96.20%	0.03492060	34.92060	307129.29	
						Nickel (Ni)	7440-02-0	3.00%	0.00108900	1.08900	9577.84	
						Silicon (Si)	7440-21-3	0.65%	0.00023595	0.23595	2075.20	
						Magnesium (Mg)	7439-95-4	0.15%	0.00005445	0.05445	478.89	
						Nickel	7440-02-0	92.89%	0.00157906	1.57906	13887.92	
Leadframe Plating	RuPPF	HDS	0.001700	1.70	1.495%	Palladium	7440-05-3	3.56%	0.00006047	0.06047	531.85	
						Gold	7440-57-5	2.00%	0.00003394	0.03394	298.49	
						Silver	7440-22-4	1.56%	0.00002653	0.02653	233.36	
						Silver	7440-22-4	79.50%	0.00047700	0.47700	4195.25	
Die Attach	AMK-06	Henkel	0.000600	0.60	0.528%	Carbocyclic acrylate	Proprietary	10.00%	0.00006000	0.06000	527.70	
						Bismaleimide resin	Proprietary	5.00%	0.00003000	0.03000	263.85	
						Acrylate	Proprietary	5.00%	0.00003000	0.03000	263.85	
						2-(3,4-Epoxy)cyclohexyl)ethyltrimethoxysilane	3388-04-3	0.50%	0.00000300	0.00300	26.39	
						Copper (Cu)	7440-50-8	96.499%	0.00048250	0.48250	4243.58	
Wirebond	AuPCC	MKE	0.000500	0.50	0.440%	Palladium (Pd)	7440 05-3	3.000%	0.00001500	0.01500	131.93	
						Silver (Ag)	7440-22-4	0.001%	0.00000001	0.00001	0.04	
						Gold (Au)	7440-57-5	0.500%	0.00000250	0.00250	21.99	
						Epoxy Resin A	Proprietary	1.00%	0.00064600	0.64600	5681.62	
						Epoxy Resin B	Proprietary	1.00%	0.00064600	0.64600	5681.62	
Molding Compound	G631BQ Type F	Sumitomo	0.064600	64.60	56.816%	Phenol Resin	Proprietary	5.00%	0.00323000	3.23000	28408.09	
						Silica Amorphous(A)	60676-86-0	80.00%	0.05168000	51.68000	454529.46	
						Silica Amorphous(B)	7631-86-9	10.00%	0.00646000	6.46000	56816.18	
						Metal Hydroxide	Proprietary	2.00%	0.00129200	1.29200	11363.24	
						Carbon Black	1333-86-4	1.00%	0.00064600	0.64600	5681.62	
						Nickel	7440-02-0	92.89%	0.00362254	3.62254	31860.52	
External Plating	RuPPF	HDS	0.003900	3.90	3.430%	Palladium	7440-05-3	3.56%	0.00013873	0.13873	1220.14	
						Gold	7440-57-5	2.00%	0.00007786	0.07786	684.77	
						Silver	7440-22-4	1.56%	0.00006087	0.06087	535.37	
			0.113700	113.70	100.0000%				700.00%	0.113700	113.70	1000000.00

Calculated

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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.

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