



Material Composition Declaration

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This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

Adobe Reader version 7.0.5 is required to complete this declaration.

1752-2 1.1	IPC Web Site for Information on IPC-1752 Standard http://www.ipc.org/IPC-175x	Form Type * Distribute	Declaration Class * Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Informat
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Supplier Information

Company Name * Anaren Microwave	Company Unique ID	Unique ID Authority	Response Date * 2019-09-09	Response Document ID				
Contact Name * Gulsen Gungor	Title - Contact Project Engineer	Phone - Contact * 315-432-8909	Email - Contact * gulsen.gungor@ttm.com	Duplicate Contact -> Authorized Representative				
Authorized Representative * Gulsen Gungor	Title - Representative Project Engineer	Phone - Representative * 315-432-8909	Email - Representative * gulsen.gungor@ttm.com	Supplier Comments or URL for Additional Information				
Requester Item Number	Mfr Item Number C12N50Z4	Mfr Item Name	Effective Date 2019-09-09	Version A	Manufacturing Site East Syracuse	Weight * 0.00754	UOM g	Unit Type Each
Alternate Recommendation				Alternate Item Comments				

Manufacturing Process Information

Terminal Plating / Grid Array Material Matte Tin (Sn) - reflowed over Nickel (Ni) barrier	Terminal Base Alloy Other	J-STD-020 MSL Rating 1	Peak Process Body Temperature 260 C	Max Time at Peak Temperature 30 seconds	Number of Reflow Cycles 3
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Comments

Compliant to RoHS 2 Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 & Commission Delegated Directive 2015/863/EU of 31 March 2015.

Save the fields in this form to a file

Export Data

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Clear all of the fields on this form

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Lock the fields on this form to prevent changes

Lock Supplier Fields

RoHS Material Composition Declaration

Declaration Type *

Custom

RoHS Directive 2002/95/EC **RoHS Definition:** Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium

RoHS 2 (Directive 2011/65/EU & 2015/863/EU) Definition Addendum: Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP).

Supplier certifies that it gathered the information it provides in this form concerning RoHS restrictive substances using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part, and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part, the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form.

RoHS Declaration * 1 - Item(s) does not contain RoHS restricted substances per the definition above

Supplier Acceptance * Accepted

Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.

Declaration Signature

Instructions: Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.

Supplier Digital Signature

Homogeneous Material Composition Declaration for Electronic Products

SubItem Instructions: The presence of any JIG Level A or B substances must be declared. [1] indicate the subpart in which the substance is located, [2] provide a description of the homogeneous material [3], enter the weight of the homogeneous material.

Substance Instructions: [A] select the Level (JIG A, JIG B, Requester or Supplier) [B] select the substance category (JIG or Requester) or enter a value (Supplier). [C] select the substance (JIG) or enter the substance and CAS (Other). [D] select a RoHS exemption, if applicable [E] enter the weight of the substance or the PPM concentration [F] Optionally enter the positive (+) and negative (-) tolerance in percent (Note: percent tolerance values are expected to cover a 3 sigma range of distribution unless otherwise noted).

Line Functions: +I Inserts a New Item /SubItem +M Inserts a new Material +C Inserts a new Substance Category +S Inserts a new Substance - Deletes the element line

+I	-I	Item/SubItem Name	+M	-M	Homogeneous Material	Weight	Unit of Measure	+C	-C	Level	Substance Category	+S	-S	Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM
																			-	+	
		C12N50Z4			Substrate	0.006175g			Supplier	Substrate				Aluminum Nitride (ALN)	24304-00-5		0.005866g				950,00
									Supplier	Substrate				Yttrium (III) oxide (Y2O3)	1314-36-9		0.000308g				50,000
					Conductor	0.000630g			Supplier	Conductor				Silver (Ag)	7440-22-4		0.000573g				910,00
									Supplier	Conductor				Cobalt (Co)	7440-48-4		0.000009g				15,000
									Supplier	Conductor				Titanium (Ti)	7440-32-6		0.000047g				75,000
					Thick Film Resis	0.000076g			Supplier	Thick Film Resistor				Boron Oxide (BO)	1303-86-2		0.000010g				134,60
									Supplier	Thick Film Resistor				Magnesium Oxide (MgO)	1309-48-4		0.000007g				96,200
									Supplier	Thick Film Resistor				Aluminum Oxide (Al2O3)	1344-28-1		0.000010g				134,60
									Supplier	Thick Film Resistor				Silicon Dioxide (SiO2)	14808-60-7		0.000003g				51,300
									Supplier	Thick Film Resistor				Ruthenium(IV) dioxide (12036-10-1		0.000037g				493,60
									Supplier	Thick Film Resistor				Zinc oxide (ZnO)	1314-13-2		0.000006g				89,700
					Protective Glaze	0.000110g			Supplier	Protective Glaze				Boron Oxide (BO)	1303-86-2		0.000023g				214,30
									Supplier	Protective Glaze				Aluminum Oxide (Al2O3)	1344-28-1		0.000007g				64,300
									Supplier	Protective Glaze				Silicon Dioxide (SiO2)	14808-60-7		0.000007g				64,300
									Supplier	Protective Glaze				Chromium(III) oxide (Cr	1308-38-9		0.000001g				14,200
									Supplier	Protective Glaze				Zinc oxide (ZnO)	1314-13-2		0.000071g				642,90
					Protective Polym	0.000273g			Supplier	Protective Polymer				*Proprietary Metal Com	Proprietary		0.000027g				100,00
									Supplier	Protective Polymer				*Proprietary Blue Pigme	Proprietary		0.000054g				200,00
									Supplier	Protective Polymer				Cobalt (Co)	7440-48-4		0.000081g				300,00
									Supplier	Protective Polymer				Molybdenum (Mo)	7439-98-7		0.000109g				400,00
					Part Marking Ink	0.000006g			Supplier	Part Marking Ink				Titanium dioxide (TiO2)	13463-67-7		0.000005g				857,10
									Supplier	Part Marking Ink				Silica amorphous (SiO2)	7631-86-9		0.000000g				142,90
					Nickel Plating	0.000205g			A	Lead/Lead Compound				Lead	7439-92-1		0.000000g				499.75

					+C	-C	B	Nickel (external applic	+S	-S	Nickel	7440-02-0		0.000205g			999,50
+M	-M	Tin Plating	0.000057g		+C	-C	Supplier	Tin Plating	+S	-S	Tin (Sn)	7440-31-5		0.000057g			1,000,0