



## Certificate of Compliance

This document certifies that Qorvo US, Inc. ("Qorvo"), on behalf of its affiliates, has taken commercially reasonable actions to ensure that the part numbers in Table 1 comply with various Product Compliance regulations. Furthermore, these parts comply with IPC/JEDEC J-STD-020 and IPC/JEDEC J-STD-033. This document covers these products as they are manufactured in all Qorvo facilities and/or as they are assembled by companies subcontracted by Qorvo.

**Table 1: Qorvo Part Numbers Covered by this Certificate of Compliance  
(See Table 2 for Status Code Definitions)**

Part Number	Part Description	RoHS Status Code	REACH Annex XVII Status	REACH SVHC Status Code	Halogen Status Code
DW1000	UWB Transceiver IC	EU-A China-A	See Note 1	No SVHC	HF

Please direct all questions about this certificate to [QorvoGreen@Qorvo.com](mailto:QorvoGreen@Qorvo.com).

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Product Compliance Engineer

Date: 30-Apr-2020



**Table 1 Notes:**

1. This product contains a substance(s) listed in REACH Annex XVII, but not in the usage(s) restricted in the regulation. Refer to the Full Material Declaration for specific CAS numbers.
2. This product contains glass manufactured using Boron Oxide (CAS No. 1303-86-2) as a raw material. However, glass is a substance itself and is not listed as an SVHC under REACH. This usage of Boron Oxide meets the criteria of being an “intermediate” in the manufacture of the glass. Boron Oxide itself is not present in this product, and this disclosure is not required by the REACH regulation.
3. This product contains glass manufactured using Lead Oxide (CAS No. 1317-36-8) as a raw material. However, glass is a substance itself and is not listed as an SVHC under REACH. This usage of Lead Oxide meets the criteria of being an “intermediate” in the manufacture of the glass. Lead Oxide itself is not present in this product, and this disclosure is not required by the REACH regulation.

**Table 2: Product Compliance Status Codes**

RoHS Status Codes	Definition
China-A	This part complies with China RoHS on the restriction of the use of certain hazardous substances in Electronic Information Products. No homogenous materials contain China RoHS Restricted Substances above the values shown in Table 3.
China-B (X)	At least one homogeneous material contains China RoHS Restricted Substances above the values shown in Table 3. The applicable substance is reported in parentheses (X).
EU-A	All homogeneous materials comply with RoHS Directive 2011/65/EU, as amended by (EU) 2015/863. No exemptions are required for EU RoHS compliance. The homogeneous materials used in this part do not contain RoHS Restricted Substances above the values shown in Table 3 and Table 4.
EU-B (X)	At least one homogeneous material contains RoHS Restricted Substances above the values shown in Table 3 or Table 4. An exemption is required to comply with RoHS Directive 2011/65/EU, as amended by (EU) 2015/863. The applicable exemption is reported in parentheses (X). See Table 5 for additional information.
EU-C	At least one homogenous material contains RoHS Restricted Substances above the values shown in Table 3 or Table 4, and there are no known applicable exemptions. This part does NOT comply with RoHS Directive 2011/65/EU, as amended by (EU) 2015/863.
REACH SVHC Status Codes	Definition
No SVHC	This part does not contain any substances above the reporting threshold (0.1% at the article level) that are listed on the Candidate List of Substances of Very High Concern (SVHC) under the REACH regulation as of the date this CoC was signed.
SVHC > 0.1% (X)	This part contains a substance listed on the Candidate List of Substances of Very High Concern (SVHC) under the REACH regulation above the reporting threshold (.1% at the article level) as of the date this CoC was signed. The applicable substance name and CAS # are reported in parentheses (X). In accordance with Article 33 of the REACH regulation, Qorvo will provide safe-use information for this part consistent with the “Guidance on requirements for substances in articles” document published by ECHA.
Exempt	This part contains only substances that occur in nature and are not chemically modified. These substances are exempt under the REACH regulation.
Halogen Status Codes	Definition
Not HF	This part contains a homogeneous material with either a bromine or chlorine concentration exceeding 900 ppm or a combined concentration exceeding 1500 ppm.
HF	This part does not contain any homogeneous materials with either a bromine or chlorine concentration exceeding 900 ppm or a combined concentration exceeding 1500 ppm.
Unknown	This part contains a homogeneous material for which halogen-free status is unknown.

**Table 3: Maximum Concentration Values from 2011/65/EU (effective until 22 July 2019) and SJ/T11363-2006**

RoHS Restricted Substance	Allowable Limit
Cadmium and its compounds	100 ppm (0.01 weight %)
Mercury and its compounds	1000 ppm (0.1 weight %)
Hexavalent chromium and its compounds	1000 ppm (0.1 weight %)
Lead and its compounds	1000 ppm (0.1 weight %)
Polybrominated biphenyls (PBB)	1000 ppm (0.1 weight %)
Polybrominated diphenyl ethers (PBDE)	1000 ppm (0.1 weight %)

**Table 4: Maximum Concentration Values from (EU) 2015/863 (effective from 22 July 2019)**

RoHS Restricted Substance	Allowable Limit
Bis(2-ethylhexyl) phthalate (DEHP)	1000 ppm (0.1 weight %)
Butyl benzyl phthalate (BBP)	1000 ppm (0.1 weight %)
Dibutyl phthalate (DBP)	1000 ppm (0.1 weight %)
Diisobutyl phthalate (DIBP)	1000 ppm (0.1 weight %)

**Table 5: EU RoHS Exemptions**

Exemption	Directive	Expiration Date*	Description
EU-6(a)-I	2018/739/EU	21-Jul-2021**	Lead as an alloying element in steel for machining purposes containing up to 0.35 % lead by weight and in batch hot dip galvanized steel components containing up to 0,2 % lead by weight.
EU-6(b)-I	2018/740/EU	21-Jul-2021**	Lead as an alloying element in aluminum containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminum scrap recycling.
EU-6(b)-II	2018/740/EU	21-Jul-2021**	Lead as an alloying element in aluminum for machining purposes with a lead content up to 0.4 % by weight.
EU-6(c)	2018/741/EU	21-Jul-2021**	Copper alloy containing up to 4% lead by weight.
EU-7(a)	2018/742/EU	21-Jul-2021**	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).
EU-7(c)-I	2018/736/EU	21-Jul-2021**	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g., piezoelectronic devices, or in a glass or ceramic matrix compound.
EU-7(c)-II	2019/169/EU	21-Jul-2021**	Lead in dielectric ceramic in capacitors for a rated voltage of 125V AC or 250V DC or higher.
EU-15(a)	2019/172/EU	21-Jul-2021**	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: –a semiconductor technology node of 90 nm or larger; –a single die of 300 mm <sup>2</sup> or larger in any semiconductor technology node; –stacked die packages with die of 300 mm <sup>2</sup> or larger, or silicon interposers of 300 mm <sup>2</sup> or larger.

\*The dates shown are the earliest dates at which the exemptions will expire for any Electrical and Electronical Equipment (EEE) category. Certain categories have later expiration dates than indicated here.

\*\*Requests for Renewal have been submitted. Exemption remains valid pending renewal decision by the EU Commission.