



RoHS Certificate of Compliance

Yoctopuce hereby certifies that it has assessed the compliance of the product **Yocto-4-20mA-Tx** (TX420MA1) with the requirements of European Directive 2011/65/EU (*known as RoHS 2*) according to the methodology recommended by the European Standard EN 50581:2012 "*Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances*", in conformity with Module A of Decision 768/2008/EC.

For each and every component used to build the **Yocto-4-20mA-Tx**, Yoctopuce has obtained from the manufacturer a document that demonstrates the compliance with the directive. The quality and trustworthiness of the documents has been evaluated, and additional information has been requested in case of doubt on the thoroughness of the documents or on the manufacturer's knowledge of the directive. Wherever evidence was lacking, components have been replaced by similar components from other manufacturers compliant with the directive.

Based on the collected evidence, Yoctopuce certifies that the **Yocto-4-20mA-Tx** is compliant with the restricted substance requirements of European Directive 2011/65/EU (*RoHS 2*), using the following exemptions:

- 6(c): Copper alloy containing up to 4% lead by weight
- 7(c)-I: Electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors

For all intents and purposes, the complete list of components and materials currently used is attached, with an indication of the directive version taken into account by the manufacturer, the type of the supporting document, and the list of exemptions required for each component. Whenever alternative components have been used in the past, variants are also listed separately. This document is therefore updated on a regular basis.

Yoctopuce keeps abreast of the legislative adaptations, in particular concerning the evolution of and the renewal of expiring exemptions. If need be, the products will be adapted according to the new standards. Similarly, although we can not yet establish compliance with amendment 2015/863 (phthalate exclusions) due to lack of certification from some suppliers, we will take the necessary measures to ensure that our products comply with it by July 2019.

Cartigny, 15 December 2017

Marc Vuilleumier Stükelberg
Partner



Exhaustive list of components and materials currently used to build the Yocto-4-20mA-Tx

Component	Manufacturer	Type	Compliance	Exemptions	Evidence
PIC24FJ64GB002-I/ML	Microchip	CPU	RoHS 2015/863	-	Manufacturer Material Declaration
C0603C106M9PACTU	Kemet	Cap	RoHS 2015/863	-	Manufacturer Certificate of Compliance
C0805C104K5RACTU	Kemet	Cap	RoHS 2015/863	-	Manufacturer Certificate of Compliance
C0805C105K4RACTU	Kemet	Cap	RoHS 2015/863	-	Manufacturer Certificate of Compliance
C0805C222K5RACTU	Kemet	Cap	RoHS 2015/863	-	Manufacturer Certificate of Compliance
GRM188R60J105KA01D	Murata	Cap	RoHS 2011/65/UE	-	Manufacturer Certificate of Compliance
GRM188R61C225KE15D	Murata	Cap	RoHS 2011/65/UE	-	Manufacturer Certificate of Compliance
GRM216R71E103KA01D	Murata	Cap	RoHS 2011/65/UE	-	Manufacturer Certificate of Compliance
GRM21BR71H105KA12L	Murata	Cap	RoHS 2011/65/UE	-	Manufacturer Certificate of Compliance
C2012X7R2E472KT5	TDK	Cap	RoHS 2015/863	-	Manufacturer Certificate of Compliance
UMK325AB7106KM-T	Taiyo Yuden	Cap	RoHS 2015/863	-	Manufacturer Certificate of Compliance
885_012_206_071	Würth Electronic	Cap	RoHS 2015/863	-	Manufacturer Certificate of Compliance
ZX62-B-5PA(33)	Hirose	Connecteur	RoHS 2015/863	-	Manufacturer Certificate of Compliance
691_210_910_002	Würth Electronic	Connecteur	RoHS 2015/863	6(c)	Analytical test results
FAN4010L6X_F113	Fairchild (On Semiconductor)	Current_Sense	RoHS 2015/863	-	Manufacturer Certificate of Compliance
DAC161S997	Texas Instruments	DAC	RoHS 2015/863	-	Manufacturer Certificate of Compliance
MCP1703T-3302E/CB	Microchip	LDO	RoHS 2015/863	-	Manufacturer Material Declaration
LP2951ACSD_NOPB	Texas Instruments	LDO	RoHS 2015/863	-	Manufacturer Certificate of Compliance
AA2214ZGS	Kingbright	LED-Vert	RoHS 2015/863	-	Manufacturer Certificate of Compliance
AA2214QBS/D	Kingbright	LED-bleu	RoHS 2015/863	-	Manufacturer Certificate of Compliance
PBSS4350Z,135	Nexperia	NPN	RoHS 2011/65/UE	-	Manufacturer Material Declaration
FR4/ENIG	Multi-cb	PCB	RoHS 2011/65/UE	-	Manufacturer Certificate of Compliance
MOCD217M	Fairchild (On Semiconductor)	Relais	RoHS 2015/863	-	Manufacturer Certificate of Compliance
RK73H1JTTD10R0F	KOA speer electronics	Res	RoHS 2011/65/UE	7(c)-I	Manufacturer Certificate of Compliance
RG1608P-202-B-T5	Susumu	Res	RoHS 2015/863	-	Manufacturer Certificate of Compliance
CRCW06031K00FKEA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW06031M00FKEA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
RC0603FR-070RL	Yageo	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
RC0603FR-07100KL	Yageo	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
RC0603FR-07100RL	Yageo	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
RC0603FR-0710KL	Yageo	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
RC0603FR-07150RL	Yageo	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
RC0603FR-071RL	Yageo	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
RC0603FR-0747KL	Yageo	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
RC0603FR-074K7L	Yageo	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
BAT54C	Fairchild (On Semiconductor)	Schottky	RoHS 2015/863	-	Manufacturer Certificate of Compliance
SB6N58-M500SI	KOKI	Solder paste	RoHS 2011/65/UE	-	Manufacturer Material Declaration
24-7068-7603	Kester	Solder wire	RoHS 2015/863	-	Analytical test results
KMR211NGLFS	C&K Components	Switch	RoHS 2015/863	-	Manufacturer Certificate of Compliance
VC080538C770DP	AVX (Kyocera)	Varistor	RoHS 2011/65/UE	-	Manufacturer Certificate of Compliance
NZH5V1B,115	Nexperia	Zener	RoHS 2011/65/UE	-	Manufacturer Material Declaration

Alternate components that may have been used in the past to build the Yocto-4-20mA-Tx

Component	Manufacturer	Type	Compliance	Exemptions	Evidence
GRM188R71E104KA01D	Murata	Cap	RoHS 2011/65/UE	-	Manufacturer Certificate of Compliance
ZX62-B-5PA(11)	Hirose	Connecteur	RoHS 2011/65/UE	-	Compliance statement
ASMT-TGBM-NT502	Avago (Broadcom)	LED-Vert	RoHS 2011/65/UE	-	Compliance statement
ASMT-TBBM-NP902	Avago (Broadcom)	LED-bleu	RoHS 2011/65/UE	-	Compliance statement
RK73H1JTTD4702F	KOA speer electronics	Res	RoHS 2011/65/UE	7(c)-I	Manufacturer Certificate of Compliance
CRCW06030000Z0EA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW0603100KFKEA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW0603100KJNEA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW0603100RFKEA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW0603100RJNEB	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW060310K0FKEA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW060310K0JNEB	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW0603150RFKEA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW06031K00JNEB	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW06031M00JNEB	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
CRCW06031R00FNEA	Vishay	Res	RoHS 2015/863	7(c)-I	Manufacturer Certificate of Compliance
301-4.7K-RC	Xicon Passive Components	Res	Yes, no details	7(c)-I	Compliance statement
302-2.0K-RC	Xicon Passive Components	Res	Yes, no details	7(c)-I	Compliance statement