



RoHS Certificate of Compliance

Yoctopuce hereby certifies that it has assessed the compliance of the product **Yocto-Motor-DC (MOTORCTL)** with the requirements of European Directive 2011/65/UE and amendment 2015/863 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-Motor-DC**, 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 Wherever evidence was lacking, components have been replaced by similar components from other manufacturers compliant with the directive.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-Motor-DC** is compliant with the restricted substance requirements of European Directive RoHS 2015/863, using the following exemptions:

- 7(a): Lead in high melting temperature type solders
- 7(c)-I: Electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors
- 15: Lead in solders between semiconductor die and carrier within integrated circuit flip chip packages

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.

Cartigny, 30 July 2019

Marc Vuilleumier Stückelberg
Partner

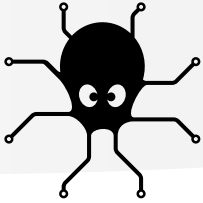


Exhaustive list of components and materials currently used to build the Yocto-Motor-DC

| Component | Manufacturer | Type | Compliance | Exemptions | Evidence |
|----------------------|------------------------------|---------------|-----------------|--------------|--|
| ADS1115IDGST | Texas Instruments | AD_conv | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| PIC24FJ64GB002-I/ML | Microchip | CPU | RoHS 2015/863 | - | Manufacturer Material Declaration |
| APSG200ELL681MJB5S | Nippon Chemicon | Cap | RoHS 2015/863 | - | Compliance statement |
| C1608X6S1A106M080AC | TDK | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| C2012X7R1V225K125AE | TDK | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| C2012X7R2E472K085AA | TDK | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| CGA3E2X8R1E104K080AA | TDK | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| EMK107BB7225KA-T | Taiyo Yuden | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| LMK107B7105KA-T | Taiyo Yuden | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| UMK212B7105KG-T | Taiyo Yuden | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| ZX62-B-5PA(33) | Hirose | Connecteur | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| 691_313_410_002 | Würth Electronic | Connecteur | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| ACS712ELCTR-30A | Allegro | Current_Sense | RoHS 2011/65/UE | 15 | Manufacturer Material Declaration |
| FAN4010ILGX_F113 | Fairchild (On Semiconductor) | Current_Sense | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| P6KE20CA | LittleFuse | Diode | RoHS 2011/65/UE | 7(a), 7(c)-I | Analytical test results |
| TC4426AVOA | Microchip | Driver | RoHS 2015/863 | - | Manufacturer Material Declaration |
| SELECT-10 | Kester | Flux | RoHS 2015/863 | - | Analytical test results |
| MCP1703T-3302E/CB | Microchip | LDO | RoHS 2015/863 | - | Manufacturer Material Declaration |
| AA2214SURSK | Kingbright | LED-Rouge | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| AA2214QBS/D | Kingbright | LED-bleu | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| SIA418DJ-T1-GE3 | Vishay | N-fet | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| SIA421DJ-T1-GE3 | Vishay | P-fet | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| FR4-ENIG | Multi-cb | PCB | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| MOCD223M | Fairchild (On Semiconductor) | Relais | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| RK73H1JTTD1242F | KOA speer electronics | Res | RoHS 2015/863 | 7(c)-I | Manufacturer Certificate of Compliance |
| AC0603FR-074K7L | Yageo | Res | RoHS 2015/863 | 7(c)-I | Manufacturer Certificate of Compliance |
| PE0603FRF470R1L | Yageo | Res | RoHS 2015/863 | - | 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-071K5L | Yageo | Res | RoHS 2015/863 | 7(c)-I | Manufacturer Certificate of Compliance |
| RC0603FR-071ML | Yageo | Res | RoHS 2015/863 | 7(c)-I | Manufacturer Certificate of Compliance |
| RC0603FR-073KL | 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 |
| 04-7068-0000 | Kester | SAC305 bar | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| 24-7068-7603 | Kester | SAC305 wire | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| BAT54CWT1G | ON Semiconductor | Schottky | RoHS 2015/863 | - | Manufacturer Material Declaration |
| MCP9804T-E/MC | Microchip | Sensor | RoHS 2015/863 | - | Manufacturer Material Declaration |
| SB6N58-M500SI | KOKI | Solder paste | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| KMR211NGLFS | C&K Components | Switch | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| ROE-0505S | Recom | isolator | RoHS 2015/863 | - | Analytical test results |
| Si8600AC-B-IS | Silicon labs | isolator | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |

Alternate components that may have been used in the past to build the Yocto-Motor-DC

| Component | Manufacturer | Type | Compliance | Exemptions | Evidence |
|--------------------|------------------------------|------------|-----------------|------------|--|
| C0603C106M9PACTU | Kemet | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| C0805C105K4RACTU | 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 |
| GRM188R71E104KA01D | Murata | Cap | RoHS 2011/65/UE | - | Manufacturer Certificate of Compliance |
| GRM21BR61E225KA12L | Murata | Cap | RoHS 2011/65/UE | - | Manufacturer Certificate of Compliance |
| C2012X7R2E472KT5 | TDK | Cap | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| EMK107BC6106MA-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(11) | Hirose | Connecteur | RoHS 2011/65/UE | - | Compliance statement |
| TLSM1060(T18) | Toshiba | LED-Rouge | Yes, no details | - | Compliance statement |
| ASMT-TBBM-NP902 | Avago (Broadcom) | LED-bleu | RoHS 2011/65/UE | - | Compliance statement |
| MOCD217M | Fairchild (On Semiconductor) | Relais | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| RK73H1JTTD1501F | KOA speer electronics | Res | RoHS 2015/863 | 7(c)-I | Manufacturer Certificate of Compliance |
| RK73H1JTTD4702F | KOA speer electronics | Res | RoHS 2011/65/UE | 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 |



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|------------------|------------------------------|----------|-----------------|--------|--|
| 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 |
| CRCW06031M00FKEA | 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 |
| CRCW06033K00FKEA | Vishay | Res | RoHS 2011/65/UE | 7(c)-I | Manufacturer Certificate of Compliance |
| WSLP0603R1000FEA | Vishay | Res | RoHS 2015/863 | - | Manufacturer Certificate of Compliance |
| 301-4.7K-RC | Xicon Passive Components | Res | Yes, no details | 7(c)-I | Compliance statement |
| 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 |