Declaration of Conformity to EU RoHS Directive（EU）2015/863

Pulse Electronics manufactures products at Pulse Operations or with selected Manufacturing Partners

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Part number: HX5201NL

This is to certify that the parts/products listed above meet the requirements of the **RoHS Directive (EU) 2015/863** The following table lists the restricted materials and their respective allowable limits:

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 %)
Phthalate (2 - ethyl hexyl ester (DEHP)	1000 ppm (0.1 weight %)
Butyl Benzyl Phthalate (BBP)	1000 ppm (0.1 weight %)
dibutyl phthalate (DBP)	1000 ppm (0.1 weight %)
Di Iso Butyl Ortho Phthalate (DIBP)	1000 ppm (0.1 weight %)

If parts/products take advantage of any exceptions, please check which exemption(s):

1. Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):

☐ (a) For general lighting purposes < 30 Watts
☐ (b) For general lighting purposes ≥ 30 Watts and < 50 Watts
☐ (c) For general lighting purposes ≥ 50 Watts and < 150 Watts
☐ (d) For general lighting purposes ≥150 Watts: 15 mg
☐ (e) For general lighting purposes with circular or square structural shape and tube diameter ≤17 mm
☐ (f) For special purposes: 5 mg
☐ (g) For general lighting purposes < 30Wwith a lifetime equal or above 20000h: 3,5mg

2a. Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):

☐ (1) Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2)
☐ (2) Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5)
☐ (3) Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8)
☐ (4) Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12)
☐ (5) Tri-band phosphor with long lifetime (≥ 25,000h)

2b. Mercury in other fluorescent lamps not exceeding (per lamp):

(1) Linear halophosphate lamps with tube diameter > 28mm (e.g. T10 and T12): 10 mg
☐ (2) Non-linear halophoshate lamps (all diameters): 15mg

☐ (3) Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9)
☐ (4) Lamps for other general lighting and special purposes (e.g. induction lamps)
3. Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):
☐ (a) Short length (≤500 mm)
☐ (b) Medium length (> 500 mm and ≤1500 mm)
☐ (c) Long length (> 1500 mm)

☐ 4a. Mercury in other low pressure discharge lamps (per lamp)

4b. Mercury in High Pressure Sodium (vapor) lamps for general lighting purposes not exceeding (per burner) in lamps with improved color rendering index Ra > 60:
☐ (I) P ≤ 155 W
☐ (II) 155 < P ≤ 405 W
☐ (III) P > 405 W

4c. Mercury in other High Pressure Sodium (vapor) lamps for general lighting purposes not exceeding (per burner):
☐ (I) P ≤ 155 W
☐ (II) 155 < P ≤405 W
☐ (III) P > 405 W

4d. Mercury in High Pressure Mercury (vapor) lamps (HMPV)
☐ 4e. Mercury in metal halide lamps (MH)
☐ 4f. Mercury in other discharge lamps for special purposes not specifically mentioned in Annex

4g. Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light-artwork, where the mercury content shall be limited as follows:
☐(a). 20mg per electrode pair + 0,3mg per tube length in cm, but not more than 80mg, for outdoor applications and indoor applications exposed to temperatures below 20°C;
☐(b). 15mg per electrode pair + 0,24mg per tube length in cm, but not more than 80mg, for all other indoor applications.

☐ 5a. Lead in glass of cathode ray tubes
☐ 5b. Lead in glass of fluorescent tubes not exceeding 0.2% by weight

☐ 6a. Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight
☐ 6b. Lead as an alloying element in aluminium containing up to 0.4% lead by weight
☐ 6c. Copper alloy containing up to 4% lead by weight

☐ 7a. Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)

☐ 7b. Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications

☐ 7c-I. 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
☐ 7c-II. Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher

☐7c-III. Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC
☐7c-IV. Lead in PZT-based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors

☐ 8a. Cadmium and its compounds in one shot pellet type thermal cut-offs
☐ 8b. Cadmium and its compounds in electrical contacts

☐ 9. Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75% by weight in the cooling solution

☐ 9b. Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications

☐11a. Lead used in C-press compliant pin connector systems

☐11b. Lead used in other than C-press compliant pin connector systems

☐12. Lead as a coating material for the thermal conduction module C-ring

☐ 13a. Lead in white glasses used for optical applications
☐ 13b. Cadmium and lead in filter glasses and glasses used for reflectance standards

☐14. Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80% and less than 85% by weight

☐ 15. Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages

16. Lead in linear incandescent lamps with silicate coated tubes

☐ 17. Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications

18a. Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as specialty lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba) 2MgSi2O7:Pb)

☐ 18b. Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb)

19. Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact Energy Saving Lamps (ESL)

20. Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)

☐ 21. Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses

☐23. Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less

☐ 24. Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors

☐ 25. Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring

26. Lead oxide in the glass envelope of Black Light Blue lamps

27. Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125dB SPL and above) loudspeakers

☐ 29. Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC

☐ 30. Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more

☐ 31. Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)

☐ 32. Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes

☐ 33. Lead in solders for the soldering of thin copper wires of 100 µm diameters and less in power transformers

☐ 34. Lead in cermet-based trimmer potentiometer elements

36. Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display until 1 July 2010

☐ 37. Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body

☐ 38. Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide

39. Cadmium in color converting II-VI LEDs (< 10 µg Cd per mm^2 of light-emitting area) for use in solid state illumination or display systems until 1 July 2014

☐ 41. Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines



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