



# RoHS

## (Restriction of Hazardous Substances)

### Certificate of Compliance

MKS Instruments, Inc. hereby certifies that the products listed in the attached table are compliant with the European Union’s RoHS Directive, (EU) 2015/863 amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council regarding the restriction of the use of certain hazardous substances in electrical and electronic equipment. The products listed below are compliant to RoHS requirements for concentration limitations, by weight of homogeneous material, of the ten substances shown on the following page.

<u>Product</u>	<u>RoHS Compliant Part Number</u>
#1014 PHOTODETECTOR,45GHZ,IR,K/FC	101401
#1024 PHOTODETECTOR, 12PS, IR, K/FC	102400
#1414 PHOTODETECTOR,25GHZ,IR,K/FC	141403
#1414-50 DETECTOR,25GHZ,IR,K/FC,MM	141415
#1444 PHOTODETECTOR, 18.5PS,IR,K/FC	144400
#1444-50 DETECTOR,18.5PS,IR,K/FC,MM	144400-50
#1474-A AC, IR, RCVR, K/FC/SM	1474-A
#1484-A-50 AC RCVR, K/FC/MM	1484-A-50
#1544-A RECEIVER,12GHZ,IR,K/FC/MM	154400-A
#1544-A-50 RECEIVER,12GHZ,IR,K/FC	154400-A-50
#1544-B DC RCVR, 12GHZ, IR, K/FC/MM	154415
#1544-B-50,PD RCVR,DC-12GHZ,IR,K/FC	154400-B-50

The thresholds shown below are not in place for any legally allowable exemptions per Annex III of the aforementioned directive. If such exemptions are in use, they are noted on the attached table. If no exemptions are in use, then no further information is provided.

All information provided in this Certificate of Compliance is accurate to MKS’ knowledge as of the date of this certification. This confirmation is made based our internal engineering risk analysis of the individual items possibly being present along with the best technical information made available to MKS from its material suppliers.

 **OPHIR OPTRONICS SOLUTIONS LTD**

1/13/2022

Reuven Silverman  
Business Unit/General Mgr

Date



## LIST OF SUBSTANCES BANNED BY ROHS DIRECTIVE EU 2015/863

(Item cannot exceed 0.1% of homogeneous material – except as noted)

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd) – 0.01% limit
- Hexavalent chromium (Cr6+)
- Polybrominated biphenyls (PBB)
- Polybrominated diphenyl ether (PBDE)
- Diisobutyl phthalate (DIBP)
- Bis (2-ethylhexyl) phthalate (DEHP)
- Butyl benzyl phthalate (BBP)
- Dibutylphthalate (DBP)

## MKS ROHS DIRECTIVE 2011/65/EU PRODUCT EXEMPTIONS

MKS Product Number	MKS Product Description	Annex III Exemption #	Annex III Exemption Description
101401	#1014 PHOTODETECTOR, 45GHZ, IR, K/FC	6B	As an alloying element in aluminium
		6C	Copper alloy
102400	#1024 PHOTODETECTOR, 12PS, IR, K/FC	6B	As an alloying element in aluminium
		6C	Copper alloy
141403	#1414 PHOTODETECTOR, 25GHZ, IR, K/FC	6B	As an alloying element in aluminium
		6C	Copper alloy
141415	#1414-50 DETECTOR, 25GHZ, IR, K/FC, MM	6B	As an alloying element in aluminium
		6C	Copper alloy
144400	#1444 PHOTODETECTOR, 18.5PS, IR, K/FC	6B	As an alloying element in aluminium
		6C	Copper alloy
144400-50	#1444-50 DETECTOR, 18.5PS, IR, K/FC, MM	6B	As an alloying element in aluminium
		6C	Copper alloy
1474-A	#1474-A AC, IR, RCVR, K/FC, SM	6B	As an alloying element in aluminium
		6C	Copper alloy
		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



1484-A-50	#1484-A-50 AC RCVR, K/FC, MM	6B	As an alloying element in aluminium
		6C	Copper alloy
		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
154400-A	#1544-A RECEIVER, 12GHZ, IR, K/FC, MM	6B	As an alloying element in aluminium
		6C	Copper alloy
		7A	In high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)
		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
154400-A-50	#1544-A-50 RECEIVER, 12GHZ, IR, K/FC	6B	As an alloying element in aluminium
		6C	Copper alloy
		7A	In high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)
		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
154415	#1544-B DC RCVR, 12GHZ, IR, K/FC, MM	6B	As an alloying element in aluminium
		6C	Copper alloy
		7A	In high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)
		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
154400-B-50	#1544-B-50, PD RCVR, DC-12GHZ, IR, K/FC	6B	As an alloying element in aluminium
		6C	Copper alloy



		7A	In high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)
		7C-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound