

Bordeaux, France November, 1st 2017

#### **RoHS Directive**

The RoHS Directive is a European Directive referenced 2002/95/EC superseded by Directive 2011/65/EC (referred as RoHS II Directive) for Restriction of Hazardous Substances.

From July 2006, new electrical and electronic equipment sold on the market should not contain Lead, Mercury, Hexavalent Chromium, Cadmium, Polybrominated Biphenyls, and polybrominated Diphenyl Ethers.

From March 2015, four additional substances have been added to the list : Bis (2-ethylhexyl) phthalate, Butyl benzyl phthalate, Dibutyl phthalate, Diisobutyle phthalate (referred as RoHS II+).

#### **RoHS II+ List : RoHS<sub>9</sub> and RoHS<sub>10</sub>**

The common definition of RoHS<sub>9</sub> compliance means product that are compliant with the RoHS requirements for 9 substances (Mercury, Hexavalent Chromium, Cadmium, Polybrominated Biphenyls, polybrominated Diphenyl Ethers, Bis (2-ethylhexyl) phthalate, Butyl benzyl phthalate, Dibutyl phthalate, Diisobutyle phthalate) but contains Lead in solder paste and/or internal components/material.

RoHS<sub>10</sub> compliance means compliant with RoHS Directive on the 10 substances.

#### **RoHS Supply Chain Compliance**

GAIA has initiated supply chain RoHS compliance far in advance with tracking, separate stocks, follow up, to ensure that all components, materials, tools for its products are compliant with European Directive 2002/95/EC, 2011/65/EC and latest 4 additional prohibited substances.

#### **RoHS Process Compliance**

GAIA Converter is using lead free compatible SMD lines with lead free solder paste SnAgCu type.

#### **RoHS Product Interface Compliance (Pins)**

GAIA Converter pins finishing depending on products family are either pure matte tin over nickel underplate or electroless nickel immersion gold (ENIG).

#### **RoHS Product Qualification**

For Industrial grade products, GAIA Converter has qualified the RoHS process. Qualification report with cross sectioning and metallurgical analysis is available upon request.

For Hi-Rel grade products qualifications to comply with harsh environment have been achieved with HALT and HASS screening including thermal cycles and shocks to simulate acceleration factor.

Qualification reports can be found at [www.life-amelie.info](http://www.life-amelie.info)

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## RoHS Compliance

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As a global player, GAIA Converter is committed to fulfill the requirements of the European Directive on the Restriction of Hazardous Substances (RoHS) 2002/95/EC applicable since July, 1st 2006 updated in January 2013 by Directive 2011/65/EC and March 2015 for additional 4 substances for electronic equipment in areas such, information technology, telecom, consumer equipment, ..

#### **1- For all GAIA Converter Industrial Grade Products**

**All GAIA Converter Industrial Grade products are RoHS compliant since July, 1st 2006 RoHS II since January, 1st 2013 and RoHS II+ since March 2015 :**

- MGDI-04/MGDI-10/MGDI-18 : 4W, 10W, 18W Industrial series to RoHS<sub>10</sub>
- MGDDI-06/MGDDI-20 : 6W, 20W Industrial series to RoHS<sub>10</sub>
- MGDI-20/MGDI-25/MGDI-26 : 20W, 25W Industrial series to RoHS<sub>10</sub>
- CGDI-30 : 30W Industrial series to RoHS<sub>10</sub>
- MGDI-35/MGDI-60 : 35W, 60W Industrial series to RoHS<sub>10</sub>
- MGDDI-60 : 60W Industrial series to RoHS<sub>10</sub>
- MGDI-100 : 100W Industrial series to RoHS<sub>10</sub>
- LGDSI-50, LGDSI-75 series to RoHS<sub>10</sub>

#### **2- For the following GAIA Converter Hi-Rel Grade Products**

**All following GAIA Converter Hi Rel products are RoHS compliant since Jan. 1<sup>st</sup> 2010 RoHS II since January, 1st 2013 and RoHS II+ since March 2015 :**

- MGDM-04/MGDM-10/MGDM-18 : 4W, 10W, 18W Hi-Rel series to RoHS<sub>10</sub>
- MGDM-20/MGDM-25/MGDM-26 : 20W, 25W Hi-Rel series to RoHS<sub>10</sub>
- CGDM-30 : 30W Hi-Rel series to RoHS<sub>10</sub>
- MGDM-35 : 35W Hi-Rel series to RoHS<sub>10</sub>
- HGMM-35 : 35W AC/DC Hi-Rel series to RoHS<sub>10</sub>
- PGDS-50 series, HUGD-50 series to RoHS<sub>10</sub>

(Non RoHS product will remain available, please contact factory for details)

#### **3- For the following GAIA Converter Hi-Rel Grade Products**

**The following Hi-Rel Products are RoHS since introduction and will remain as is :**

- MGDD-08/20/21/40/60 : Hi-Rel series to RoHS<sub>10</sub>
- MGDM-100 : 100W Hi-Rel series to RoHS<sub>10</sub>
- MGDM-75S/155S : 75W 150W High input Hi-Rel series to RoHS<sub>10</sub>
- MGDM-200 : 200W Hi-Rel series to RoHS<sub>10</sub>
- FGDS-2A-50V/FGDS-10A-50V / FGDS-20A-50V : EMI Filter 2A / 10A / 20A to RoHS<sub>10</sub>
- LGDS-100/300 / HUGD-300 : Limitor module and hold-up module to RoHS<sub>10</sub>

#### **4- For the following GAIA Converter Hi-Rel & Industrial Grade Products**

The following Hi-Rel & Industrial Grade Products will remain as is :

- MGDM-75/MGDI-75 : 75W series to RoHS<sub>9</sub>
- MGDM-150/155/MGDI-150 : 150W series to RoHS<sub>9</sub>
- HGMM-150/350 : 150W / 350W AC/DC series to RoHS<sub>9</sub>



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#### Product Markings

In order to identify RoHS to non RoHS products, GAIA Converter has adopted the following tip on the module marking :

**Since July 1st, 2005** (product date code 0527) all GAIA Converter products are identified as follow :

- for non RoHS products : a ‘L’ identification letter will be attached to the product datecode marking.
- for RoHS products : no special marking for RoHS products.

The following table resumes the different product markings :

Product Compliance	Product Datecode Marking (yy : year of manufacturing    ww : week of manufacturing)	
	Before July 1st, 2005 (before date code 0527)	After July 1st, 2005 (starting date code 0527)
Non RoHS compliant Product	yyww	yywwL
RoHS compliant Product	/	yyww

#### Customer Responsibility

GAIA Converter products, once converted to RoHS will be compliant with the European Directive 2002/95/EC superseded by Directive 2011/65/EC. GAIA Converter does not warrant that customers own product, which incorporate such GAIA Converter products, will turn to comply with the European Directive 2002/95/EC or 2011/65/EC.

In all events the customer shall remain liable for ensuring it's own product meet the requirements of the European Directive 2002/95/EC and 2011/65/EC, including but not necessarily limited to :

- verifying the compatibility with it's own soldering process
- checking marking and date code of all GAIA Converter products
- qualifying product in it's application, ...