

## RCB-F9T REACH notification

Dear customer,

Thalwil, 03 July 2020

This letter provides information about the u-blox RCB-F9T board with regards to the European Union's REACH regulation.

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According to Article 3(3) of the REACH Regulation, an article is *“an object which during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition.”*

Articles that are assembled or joined together remain articles, as long as they keep a special shape, surface or design, which is more decisive for their function than their chemical composition.

REACH regulations state that the maximum concentration permitted of any “substance of very high concern” is 1000 ppm per article.

Any supplier of an article containing a substance of very high concern has to provide to the recipient of the article (Article 33(1)) or to a consumer (Article 33(2)) relevant safety information when both the following conditions are met:

- The substance is included in the Candidate List for authorization, and
- The substance is present in articles produced and/or imported above a concentration of 0.1% (w/w)

Specifically, the antenna connector and the diode mounted on RCB-F9T board are considered as two different articles and contain lead above the limit of 1000 ppm.

### Lead investigation

Lead (CAS Number 7439-92-1) is considered toxic for reproduction in case of prolonged or repeated exposure. It is also considered toxic for the environment: as regards electronic equipment, the release to the environment can occur from indoor use in long-life materials with a low release rate.

According to REACH regulations, lead is included in:

- Candidate list of substances of very high concern for authorization
- Substances restricted by REACH Annex XVII

As a substance of very high concern, if lead is present in articles (produced or imported) above a concentration of 0.1% (w/w), this must be communicated down the supply chain.

Lead is also regulated by EU RoHS Directive 2002/95/EC, which specifies that its maximum concentration level in electrical and electronic products shall be 0.1% (w/w) per homogenous material. However, there are many exemptions for the lead content.

### Lead in affected u-blox product

Lead is present in two subparts of the antenna connector made of lead brass: the body and the inner conductor.

The body weighs 5.2 g and contains 20000 ppm of lead. The inner conductor weighs 0.16 g and contains 20000 ppm of lead. The total weight of the antenna connector is 5.62 g and the concentration of lead is 1.9 % (w/w).

During normal or reasonably foreseeable conditions of use, the lead brass is isolated thanks to the nickel-gold plating of the connector.

Lead is also present in two subparts of the diode above a concentration of 1000 ppm: the die bonding and the clip bonding.

The die bonding weighs 1.3E-4 g and contains 949985 ppm of lead. The clip bonding weighs 1.6E-4 g and contains 900031 ppm of lead. The total weight of the diode is 9.3E-3 g and the concentration of lead is 2.3 % (w/w).

Also in this case, lead is not intended to be released under normal or reasonably foreseeable conditions of use.

### Conclusion

According to Article 33 of the REACH regulation, u-blox has the duty to communicate to its customers that two articles of the RCB-F9T board contain one of the substances of very high concern above the limit of 0.1 % (w/w).

Due to the Commission Regulation (EU) 2015/628 that amends the REACH Annex XVII, lead restrictions in entry 63 of Annex XVII shall not apply to the RCB-F9T board, because it is within the scope of RoHS regulation. Therefore, there are no restrictions to manufacture, place to the market, and use RCB-F9T board.

Additionally, RCB-F9T is RoHS compliant because the lead content is covered by the ANNEX III of the EU RoHS Directive, exemption *6(c) - Copper alloy containing up to 4 % lead by weight* and exemption *7(a) - Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)*.

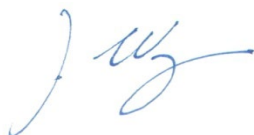
### Corrective action

As a downstream user, we are following the obligation imposed by REACH regulations to inform our customers.

We are exploring the options regarding an alternative antenna connector and diode.

We are sorry for the inconvenience and remain at your disposal should you require further information.

Kind regards



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Exec. Dir. Production & Logistics



Alberto Sampino  
Director Quality / Env. System