

Interactive comment on “A new high-precision and low-power GNSS receiver for long-term installations in remote areas” by D. H. Jones et al.

Anonymous Referee #1

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General comments

The paper describes a novel instrument called GNSS RECEIVER with a high precision for low power application in remote areas. It is well written, and the technique seems to have been implemented with rigor and efficiency. The results, experiments and conclusions are correctly argued. The technique uses states of art concerning the choice of electronic components based mainly on a GPS chip and a microcontroller card.

Specific comments

1) Nowadays most of electronic cards can reach temperature very low (-40°C is tradi-

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tional) and is no longer considered as a original performance.

2) Moisture could be a problem and no information is given to resolve this problem. Condensation in enclosure can undamaged electronic components. Authors could precise how they manage to prevent it.

3) The choice of GNSS chip has to be more argued. It could be interesting to know why authors use this chip? Power consumption is not negligible compared with other boards and one major point limiting the performance is that it allows only the study for GPS satellite. For scientists, it could be interesting to choose a compatible chip with Beidou or Galileo constellation for the future.

4) It is written that UBI consumes 2W, if you use a 12V/100ah battery it reaches $100/(2/12)=25$ days. Authors have to also consider that capacity of the battery will be affected by outside temperature. Then it would be more honest, to take account this parameter and start with 80

5) To explain why do authors choose irridium? They could argue that the full duplex transmission is very comfortable to reinitialize system specially when it is difficult to access.

6) My last point concerns price of each components because it is an important point for this paper and an overall budget could be given.

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