Economical GNSS Chipset for Application in Structural Health & Deformation Monitoring Solution

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SUMMARY

Deformation monitoring provides real-time monitoring of the position, space, and deformation of an object. Common deformation monitoring includes landslide monitoring, mine monitoring, road and bridge monitoring, dam monitoring, construction monitoring, etc. It has been developed for a long time in most countries. Now, with the continuous development of China's economy and technology, the market for deformation monitoring is getting bigger and bigger, and deformation monitoring technology is also increasing rapidly.

Since GNSS technology has been widely used in the field of deformation monitoring and has been a high-cost problem, a dual-frequency, multi-system, low-cost GNSS chip solution is proposed for this field. In this paper, the feasibility of this solution in the field of deformation monitoring is verified by comparing it with mainstream multi-frequency multi-system high-precision receiver and simulating common deformation monitoring environments. The test results show that this solution can guarantee the accuracy and effectiveness of positioning, while its low cost, low power consumption, and small size means it has high value for engineering project applications.