# Verification and Analysis of Surface Acoustic Wave on Torque Sensors


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**ABSTRACT**

The use of technology to the surface acoustic wave sensors, has been widely used in recent years. Due to the advantages of the characteristics of the SAW components, a lot of research results and products had been introduced on the gas, liquid and biological inspections.

SAW sensors are investigated first in this study. Micro strip circuits are then modeled using commercial software. Surface acoustic wave devices are high frequency components, therefore, the impedance matching should be checked in the circuit design, to prevent the decay of the transmission signal antenna, it will decay to such an extent that could not clearly determine. After the completion of the body of SAW sensors, strain gages are used to check the frequency drift. The wired with non-contact type test are also performed.

An interrogation system should be used to replace a network analyzer system in the future. The shift of the center frequency are obtained by sweeping frequency and using A / D card and digital signal processing chips. The measurement information car by obtained by this interrogation system.



Keywords : Surface Acoustic Wave、 Torque sensor


**Table of Contents**

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