

## Solutions@Mecmesin

### Headset Microphone Joint Torque

#### Specification

Jabra is a subsidiary of GN Netcom and is a global manufacturer of innovative headsets (wireless and corded) and speakerphone solutions. These products cater for mobile phone users and also office-based users, such as company contact and call centre agents. The organisation's R&D lab wanted to further improve its quality assurance processes and focussed on the swivel function of the microphone arm of its headsets. The activation torque on the joint to rotate the arm reflects in the customer's perception of quality of the product. GN Netcom produces a range of equipment and their internal standards are used to test lightweight components with expected torque values from below 0.3 N.m up to a maximum of 1.5 N.m for more robust everyday devices.



An on-ear Bluetooth headset with rotating microphone arm

#### Solution

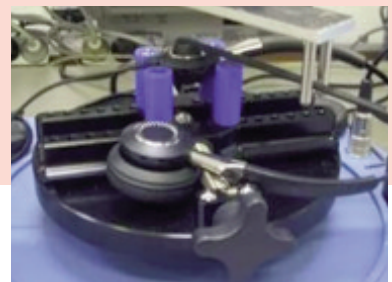
Mecmesin supplied a twin-column motorised and computer-controlled torque measurement system, including two crossheads with integral intelligent torque cells. Each torque cell rating was appropriate to the type of headset being tested. The sample is located in the adjustable lower fixing plate, which rotates beneath an upper peg fixture to move the headset against the microphone arm, arcing through its full range from stored to deployed position, and back again. Emperor™ software controls the whole process via a library of test programmes, and the characteristics of the mechanism under the applied torque are displayed as a real-time graph. The flexibility of the computer programmes possible with the system is ideally suited to the research and development setting of GN Netcom. The programming environment allows the test procedure to be easily modified for prototype headset designs, which can then be retained in the library and run at any time. The company has seen an increase in the quality of their products, realised savings in production materials costs, and has reduced wastage.



On-ear headset microphone arm test

#### System

- Vortex-*i* torque test stand
- 0.3 N.m intelligent torque cell
- 1.5 N.m intelligent torque cell
- Lower fixing plate with 4 adjustable pegs (10 – 190 mm opening)
- Custom aluminium upper fixtures, dependent upon the product design



Lower fixing plate and stereo headset

#### Testimonial

“Since we initiated this sample testing procedure, we have improved the consistency and level of quality of our products. The intuitive graphical illustration of the results helps us better understand the whole test and the nature of the torque characteristics, which assist in the design process.”

Daphi Dai, R&D Laboratory Manager, GN Netcom

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## electrical and electronics industry



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