News Release

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To whom it may concern

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Evaluation of small optical isolators for space (low-orbit satellite) equipment

Kohoku Kogyo will present the technology at "Small Satellite Conference".

Kohoku Kogyo Co., Ltd. (Head office: Nagahama City, Shiga Prefecture; President and CEO: Futoshi Ishii) has obtained favorable results from environmental testing of highly reliable optical isolators used in submarine cables for use in space. We will be announcing the results at the 39th Annual Small Satellite Conference, which will be held in Utah, USA from August 10th.

In the field of optical devices used in submarine cables, Kohoku Kogyo develops and globally supplies extremely reliable optical isolators and optical filters that can operate stably for long periods of time in environments up to 8,000 meters deep. We are also actively developing new products and technologies to accommodate the expansion of information and communication capacity, such as by miniaturizing and combining various optical devices for the increase of number of optical fibers and multi-core fibers in submarine cables. We believe that our optical devices, which have those characteristics, will be in high demand in the space communications field, where optical communications are expected to become more widespread in the future. To address this, we recently conducted environmental tests, including those on radiation and thermal vacuum, and we confirmed that our standard optical isolators used in submarine cables have sufficient performances. We also confirmed that despite its compact size, it can withstand high-power laser light.

Next, we will conduct environmental tests in actual space and aim to have our technology adopted for low-earth orbit satellite communications in accordance with space communications standards.

<The same type of optical isolator that obtained good results in environmental tests, "YD-4600">



1. Summary of the evaluation and results to be presented at the conference

Evaluation tests this time were conducted under environmental conditions required for equipment for low earth orbit (LEO) satellite optical communications, the target market for entry, as detailed below.

① Several ground verification tests simulating the space environment (radiation, vacuum, high/low temperature) were conducted, and it was confirmed that our optical isolators had sufficient resistance to radiation and high/low temperature cycles in a vacuum.

② Since high-power laser light exceeding 3W is used in satellite optical communications, 4.8W laser light injection experiments were conducted, and it was confirmed that there were no degradation to the characteristics nor damages.

③ These findings confirm that our standard optical isolators used in submarine cables meet basic performance requirements for optical communications equipment in space.

Based on these results, we will continue to develop optical devices for space equipment.

2. Overview of the conference to be presented

Conference name: 39th Annual Small Satellite Conference

Location: Salt Lake City, Utah, USA

Venue: Salt Palace Convention Center

Date: August 10th (Monday) to August 13th (Wednesday), 2025

<Contact information regarding this matter>
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