

Radio wave absorbers

TDK launches environmentally sustainable radio wave absorbers using biomass material

- Officially approved by the Japan BioPlastics Association (JBPA)
- By including more than 25 wt% of biomass material, it enables a reduction of CO₂ emissions by 13% compared to conventional products

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TDK Corporation (TSE:6762) announces its new radio wave absorber IS-BP series, containing more than 25 wt% of biomass material, making it an environmentally sustainable option that enables CO₂ reduction. Mass production started in April 2024.

Microwave anechoic chambers are used to evaluate antennas and wireless communication equipment, as well as millimeter-wave radar for AD and ADAS. The ceiling, walls, and floor of the microwave anechoic chamber are covered with radio wave absorbers.

TDK's radio wave absorber IS-BP series is made of foamed polyethylene with carbon dispersed in it; it absorbs radio waves by utilizing ohmic loss of the carbon. The shape is pyramidal with lengths available 12 cm and 30 cm depending on the frequency range used.

The absorption performance of the IS-BP series is equivalent to that of conventional products. Additionally, extensive testing has shown that the IS-BP series is as strong and durable as traditional products and is equally non-flammable.

The new IS-BP series contains over 25 wt% of biomass polyethylene derived from sugarcane, replacing petroleum-derived polyethylene. TDK is committed to maximizing its contribution to the creation of a sustainable society by working alongside its customers in a wide range of applications, including automotive, ICT, and industrial equipment. The new absorber material was developed in response to the growing demand of supply chain partners to show compliance with climate change initiatives. This new sustainable product is certified by the JBPA and has been shown to reduce CO₂ emissions by 13% compared to conventional products.

Main applications

- Microwave and EMC anechoic chambers for evaluation of antennas and wireless communication devices, and evaluation of mmWave radar for AD/ADAS, EMC measurement above GHz band

Main features and benefits

- Environmentally sustainable radio wave absorber using biomass material
- Approved by the JBPA
- Contains more than 25 wt% of biomass material
- CO₂ emissions can be reduced by 13% compared to conventional products
- Equivalent performance and flame retardance to conventional products

Key data

Typical absorption performance at certain frequencies (normal incidence); Unit: dB

Product Name	0.8 GHz	1 GHz	3 GHz	5 GHz	10 GHz	30 GHz	50 GHz	110 GHz
IS-012A-BP	20	20	30	40	55	55	55	50
IS-030A2-BP	30	35	45	50	55	55	55	50

About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately “Attracting Tomorrow.” It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK’s comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2024, TDK posted total sales of USD 14.6 billion and employed about 101,000 people worldwide.

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Further information on the products can be found under
https://product.tdk.com/en/search/chamber/chamber/rw_absorber/catalog

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