



For Immediate Release

Contact: Akifumi Tanaka
Public Relations Office
Toshiba Carrier Corporation
Tcc-media-relations@ml.toshiba.co.jp

Toshiba Carrier's World's-First Inverter Air Conditioners Honored as IEEE Milestone

Kawasaki-shi, Japan, November 4, 2020 - Toshiba Carrier Corporation ^(*1) announced that the world's-first inverter split air conditioners ^(*2) that the company developed and mass-produced for commercial and residential applications in 1980 and 1981, respectively, have been recognized by the Institute of Electrical and Electronics Engineers (IEEE) ^(*3) as an IEEE Milestone for the historic significance of the achievement in electrical and electronics fields. Toshiba Carrier is an air-conditioning joint venture in Japan between Toshiba Corporation and Carrier. Carrier is a part of [Carrier Global Corporation](#) (NYSE: CARR), a leading global provider of healthy, safe and sustainable building and cold chain solutions.

The IEEE Milestones program commends historic achievements of groundbreaking innovations in the areas of electrical, electronics, information and communications technologies, which are at least 25 years old and have made a significant contribution to the advancement of society and industry. Since the start of the program in 1983, IEEE has awarded 209 milestones ^(*4) in the world. The first IEEE Milestone for achievement in the HVAC industry ^(*5) is awarded to Toshiba Carrier.

With this honor, the Toshiba group has received three IEEE Milestones; "Japanese Word Processor JW-10" in 2008 and "Laptop PC T1100 in 2013" are the previous two Milestones awarded in addition to this most recent Milestone.

Before the emergence of inverter air conditioners, the arrival of new technology was long awaited for a mechanism to achieve reduced energy loss and more flexible temperature adjustment than the conventional on-off control of the compressor run at a fixed speed (50 or 60Hz in Japan). Toshiba, with a state-of-the-art power electronics technologies and microprocessor control, achieved a significant downsizing in its inverters that were instrumental in variable-speed compressor operation for optimized temperature control with significantly improved comfort and energy efficiency. These innovations have led to wide-spread use of inverter air conditioners across the world.

"It is a great honor that our achievement has been recognized as an IEEE Milestone", said Toru Kubo, President and Chief Executive Officer of Toshiba Carrier Corporation. "We take pride in this glorious achievement by our predecessors and would like to carry their spirit into the next generation to lead in global innovation as a heat pump solution company and offer products, systems and services that give added values for our customers' businesses."

The dedication ceremony, where the milestone plaque is presented by an IEEE official, is to be held in March 2021, in Fuji City, Shizuoka Prefecture, Japan.

*1 The milestone achievement was accomplished when the company was named Tokyo Shibaura Electric Co., Ltd. known as Toshiba.

*2 Source: Toshiba Carrier Corporation (as of November 4, 2020)

*3 IEEE, an association dedicated to advancing innovation and technological excellence for the benefit of humanity, is the world's largest technical professional society. It is designed to serve professionals involved in all aspects of the electrical, electronic, and computing fields and related areas of science and technology that underlie modern civilization with more than 419,000 members in over 160 countries. In January 1963, the AIEE (American Institute of Electrical Engineers, founded in 1884) and the IRE (Institute of Radio Engineers, founded in 1912) merged to form the IEEE. With 39 technical Societies, ten geographic regions, IEEE offers ample opportunity to network and grow professionally through communities.

*4 The figure shown is the number of the IEEE Milestones that completed the dedication ceremony as of March 4, 2020.

*5 Source: Toshiba Carrier Corporation (as of November 4, 2020)

World's-First Commercial Air Conditioner (Left) and Residential Air Conditioner (Right)



###