



World's Most Stable and Highest-Power Continuous Wave Klystron

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| Registration No. | Number 00143 | | |
| Registration Date | September 2, 2014 | Registration Category | Category 1 |
| Name (Model, etc.) | 508.6 MHz, 1.2 MW CW KLYSTRON (E3732, T62) | | |
| Location | Tsukuba City, Ibaraki | | |
| | KEK, HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION, 1-1 OHO, TSUKUBA-SHI, IBARAKI-KEN, 305-0801 JAPAN | | |
| Owner (Custodian) | KEK, HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION, 1-1 OHO, TSUKUBA-SHI, IBARAKI-KEN, 305-0801 JAPAN | | |
| Manufacturer (Company) | KEK AND TOSHIBA ELECTRON TUBES & DEVICES CO., LTD (Joint Development) | | |
| Year Manufactured | 2002 | | |
| Year first appeared | 1982 | | |
| Reason For Selection | <p>The world's largest UHF CW klystron, jointly developed by KEK and Toshiba, to accelerate electrons and positrons for accelerators of TRISTAN and KEKB. It achieved the world's first continuous stable output of 1.35MW. Compared to the prototype, drastic improvements have been made to treatment technologies in manufacturing process, and to electron guns, output couplers, vapor cooled collectors, etc. These technologies have been used to develop various types of high-power klystrons. To increase the dielectric breakdown voltage between the body and the anode, the anode copper is coated with chromium oxide and the shape of the ceramic insulator in between is devised. There are many original achievements, such as using a low-temperature M-type cathode to prevent excessive evaporation of barium and coating a ceramic window with titanium nitride to prevent breakage caused by multipactoring. Methods of titanium nitride and RF coupler are used as global standards today.</p> | | |
| Registration Standard | 1 - A(Show an important aspect or stage of the development of science and technology.) | | |
| Open/Closed to Public | Closed to Public | | |
| Photo |  | | |
| |  | <p>The device installed</p> <p>The same type of device</p> | |
| Other useful information | | | |