



MPE
Quality, Reliability, Performance

Company Bulletin

for EMC, EMP & TEMPEST Protection

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Typical MRI scanning suite



Custom DC feedthrough capacitor from MPE for the radiotherapy market

MPE comes of age with Teledyne e2v

Although the defence sector has historically been and remains MPE's largest market, the same high levels of quality, performance and reliability demanded by this sector are also required by the medical and scientific markets. Accordingly MPE has been supplying its high-performance feedthrough products to e2v Technologies since 1999, some 18 years ago.

Via its Medical Division based in Chelmsford, Essex, e2v have long supplied cutting-edge products into the radiotherapy, scientific, ophthalmic and dental imaging markets. In particular, these radiotherapy applications demand the highest levels of trust, quality and security of supply, and e2v's RF power products can now be found in over 90% of the world's radiotherapy treatment machines (www.e2v.com/products/rf-power/magnetrons).

The range of solutions offered by e2v includes magnetrons, thyratrons, modulators and support services, with products able to generate and deliver the microwave power required by radiotherapy cancer treatment machines. They produce the X-rays used in both the imaging and radiation treatment of tumours. e2v is now the world's largest manufacturer of pulse magnetrons and a world leader in magnetron technology.

MPE originally worked with e2v to design and develop custom high-voltage DC feedthrough capacitors for use within these magnetron solutions, being selected by e2v because of MPE's reputation for reliability and following a rigorous supplier evaluation process.

During this design process, particular attention was afforded to guarantee that high levels of feedthrough performance were maintained across a full-frequency operating spectrum from below 1GHz through to 95GHz. To date MPE has provided many thousands of feedthrough products to e2v and currently has forward orders for significant volumes to be supplied during 2017 and beyond.

Throughout this 18-year relationship, MPE has continued to work closely with e2v to ensure efficient supply as new programs have come online. Product development at MPE has been continuous to meet any new requirements as e2v's solutions have been updated.

Teledyne e2v recently launched its new MG7095 series of magnetrons to the market in direct response to customer requirements, and it has been designed specifically for radiotherapy linear accelerator use. The new magnetron design again utilises high-performance feedthrough products from MPE.

