

## FOR IMMEDIATE RELEASE

### **Remtec Develops Proprietary Process To Produce RoHS Compliant, Low Cost Metalized Ceramic (LCMC) Substrates Not Containing High Cost Palladium**

Norwood, MA. December 29, 2005. Remtec Inc. has developed a new, proprietary process for manufacturing cost effective ceramic circuits metalized with nickel-gold plated silver thick films. These versatile, high performance metalized ceramic substrates are an economic substitute for currently used expensive thick film materials containing platinum-palladium and are RoHS compliant.

These new Low Cost Metalized Ceramic (LCMC) substrates, manufactured by a proprietary process which combines thick film processing with Ni-Au plating, are available at a price 25-30% lower than commonly used Pd-Pt-Ag substrates. In addition, the new LCMC substrates offer a number of significant performance advantages.

Performance wise, the most important advantage of the new LCMC circuits is the significant reduction of solder leaching typical of conventional thick film substrates. Solder leaching is especially damaging when using lead free soldering processed at temperatures of 260°C or higher. The LCMC substrates assure more reliable solder connections required for RoHS compliance and can withstand multiple SMT reflow solder cycles and repairs without any noticeable solder leaching.

The tracks resistivity of these substrates (1-2 mΩ/square) is vastly improved, at least, by a factor of 10 and the substrates can be used in thermally demanding applications up to 170°C continuous operation temperature. Pattern definition can be held to .004" line and spaces; also, Remtec's LCMC ceramic panels can be fabricated in a 5 x 7" large format.

Combining various thick film metals and selective gold plating techniques results in achieving different types of surface finish. Therefore, the same metalized ceramic substrate yields 2 – 4 μinch gold finish for SMT soldering and welding, 30 – 50 μinch gold finish, which is excellent for gold wire bonding and 100 μinch of gold for brazing and eutectic die attach.

All the features of Remtec's Plated Copper on Thick Film (PCTF®) technology - multilayers, integrated resistors, plugged via holes, wraparounds and plated thru holes - are also available with the new LCMC products.

Remtec's new, low cost RoHS compliant LCMC metalized ceramic substrates are currently used for miniature dc/dc converters, sensors, attenuators, RF resonators and filters, low pass filters and other components.

