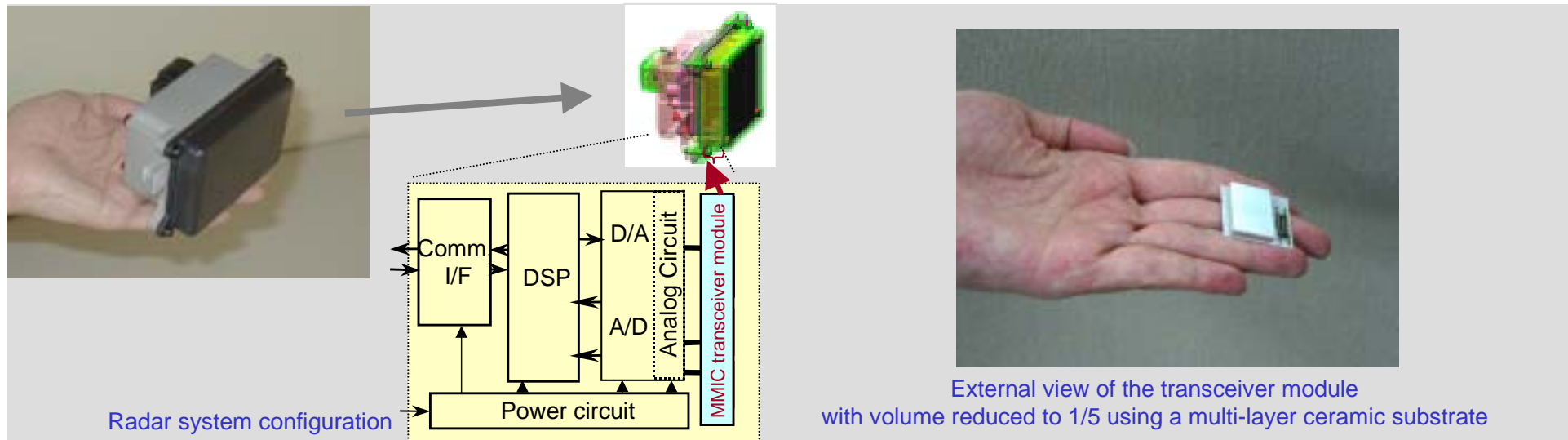


2003/6/13 Release

Compact & low-cost transceiver modules for automotive radar applications

- Volume reduced to 1/5 using multi-layer ceramic substrate -



Hitachi Ltd. Central Research Laboratory (General Manager: Dr. NISHINO Toshikazu) has developed technology to achieve significant miniaturization and cost decrease in 76GHz millimeter-wave transceiver modules for automotive radar applications. This is achieved by assembling a high-frequency circuit containing Microwave Monolithic Integrated Circuits (MMICs) on top of a ceramic multi-layer substrate which replaces the metal-based housing used in previous transceivers. By doing so, miniaturization of the device is achieved by decreasing volume to 1/5 of previous transceivers, at the same time reducing components and simplifying assembly processes, which is expected to lead to a significant reduction in manufacturing costs. This technology will contribute to the proliferation of vehicular safety technology such as Adaptive Cruise Control (ACC) which controls inter-vehicle distance, inter-vehicle distance warning systems, and impact absorption systems.