The highly miniaturized, multi-channel ultrasound system developed for mobile use integrates a total of eight parallel transmit/receive channels and is configured for a frequency range between 800 kHz and 5 MHz. Based on a pluggable design concept consisting of two printed circuit boards, the system with dimensions of only 80 x 31 x 20 mm (without battery) can be easily integrated into almost any housing. A commercially available lithium-ion battery provides sufficient power to supply the system. Among other things, a cost-optimized and energy-saving Artix-7 FPGA is responsible for the entire sequence control, signal processing, communication interface management and synchronization tasks. A WIFI interface enables the transfer of the received ultrasound data to a mobile device, such as a smartphone/tablet, where the signal analysis will be performed.

The system properties listed in the table are for orientation only. On request, the device can be adapted to individual requirements.