Figure 1: overall system diagram

54KHz Transducer (Rx)

PUD

Test Sample

54KHz Transducer (Tx)

Figure 2: Pud diagram

Analog to digital converter

Transducer (Rx)

Transducer (Tx)

Central control chip

MOSFET (Tx control)

SD card

Cooling fan

Status LED’s

12 V DC Battery

DC to DC converter

(12 to 500 v DC)