LSD (EUT) RF Exposure:-

The LSD transmitter is intended as a portable device. A person's extremity (hand) can hold the device during connection to the cable to be tensioned and come to within 10mm approx. of the integral antenna. The torso/head could be close to the EUT as well. Therefore, extremity and body exposure is calculated using the minimum 5mm separation distance for both.

Evaluation is for exposure potential against the Exclusion limits given in **KDB447498** section 4.3.1.

Exclusion requirements are based upon 10g SAR & 1g SAR exclusion for extremities & body. (Calculations shown for both)

Equation of 4.3.1. part 1A Transposed is:

Exclusion in mW = ((Threshold / (√F) * D

where: Threshold = 7.5 for 10g SAR Extremities (or 3 for 1g SAR Body worn)
F = Frequency in GHz (0.90896GHz)
D = Separation distance in mm (5mm)

Exclusion in mW for 908.96MHz (top EUT channel) for 10g SAR is = 39.33 mW.

Exclusion in mW for 908.96MHz (top EUT channel) for 1g SAR is = 15.73 mW.

The EUT's declared PK power is +14dBm (+1dB tune up tolerance)
Transmission time is controlled by the EUT and is a maximum of 300ms ON with a minimum of 700ms off between each transmission on any channel; this is considered as source-based. Worst case Average transmit time is therefore 30%. Therefore average exposure is calculated using the following:-

(14 + 1) converted to mW (linear terms) = 31.62mW

31.62 /100) * 30 = 9.486mW (+9.77dBm)

Where:
Declared conducted power = 14dBm
Tolerance = +1dB
Average on time = 30%

 This calculation shows that the EUT is excluded from RF Exposure / SAR testing requirements for both 10g extremities and 1g body SAR.