

# Analysis Report

The Equipment Under Test (EUT) is a transceiver (Base Station Unit) for a toy Push-to-Talk (PTT) type Walkie-Talkie Set operating at 49.860MHz governed by a crystal. The EUT is powered by a 9V battery. After switched ON the EUT, the user can transmit voice to other transceiver (Walkie-Talkie Unit) by pressing the PTT button and speaking to the microphone, while release the PTT button to listen voice of other transceiver from the loudspeaker. Also there is a Morse Code button on the (EUT), the user can transmit the Morse Code to other transceiver by pressing the PTT button and the Morse Code button at the same time.

**Antenna Type: External antenna**

**Antenna Gain: 0dBi**

**Nominal rated field strength: 65.0 dB $\mu$ V/m at 3m**

**Maximum allowed field strength of production tolerance: +/- 3dB**

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 68.0dB $\mu$ V/m at 3m in frequency 49.860GHz, thus;

The EIRP =  $[(FS * D)^2 * 1000 / 30] = 0.002mW$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.002mW.

The SAR Exclusion Threshold Level for 49.860MHz when the minimum test separation distance is < 50mm:

$$= [474 * (1 + \log_{10}(f(\text{MHz}))) / 2]$$
$$= 308.6mW$$

Since the above conducted output power is well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.