

Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Transmitter (Controller) for a Car Set. The EUT is powered by 2 x 1.5V AA batteries. The 2.4GHz module is operating on 71 channels, normally at 2405 – 2475 Mhz. The channels are separated by 1 MHz channel spacing.

The EUT is powered by 2 x 1.5V AA batteries. After switch on the EUT, the car will be moved forward or backward and turned left and right based on the switches pressed in the controller.

The Model: 89135, 89225, 89229, 89285, 89289, 89335, 89339, 89415, 89485 and 89489 are the same as the Model: 89075 in hardware aspect as declared by client. The models are different in non-conductive outer casing only as declared by client.

Antenna Type: Internal, Integral antenna

Antenna Gain: 0dBi

Nominal rated field strength is 98.3 dBµV/m at 3m

Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 101.3dBµV/m at 3m in frequency 2.475GHz.

Thus, it below calculated field strength according to minimum SAR exclusion threshold level as follows:

The worst case of SAR Exclusion Threshold Level:

$= 3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$

$= 3.0 * 5 / \sqrt{2.483.5} \text{ mW}$

$= 9.52 \text{ mW}$

According to the KDB 412172 D01:

$\text{EIRP} = [(\text{FS} * \text{D})^2 * 1000 / 30]$

Calculated Field Strength for 9.52mW is 105dBuV/m @3m

Since maximum field strength plus production tolerance $\leq 105\text{dBuV/m @3m}$ and antenna gain is $\geq 0.0\text{dBi}$, it is concluded that maximum Conducted Power and Field Strength are well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.