RF exposure Estimation

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FCC ID: 2AC48-ST-1

1. **Product information**
The EUT is a studio trigger using 2.4GHz wireless technology for remote control.
Model: ST-1

2. **Limit and Guidelines on Exposure to Electromagnetic Fields**
According to KDB 447498 D01 Mobile Portable RF Exposure v06, no SAR required if power is lower than the flowing threshold:
The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] [$\sqrt{f(GHz)}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
   • f(GHz) is the RF channel transmit frequency in GHz
   • Power and distance are rounded to the nearest mW and mm before calculation25
   • The result is rounded to one decimal place for comparison
   • 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below
The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

3. **Calculation method**

According to ANSI C63.10:2013 clause12.7.3 d):
$$EIRP = (E \times d)^2 / 30$$
EIRP is power in W
E is the electric field strength in V/m
d is the measurement distance in meters (m)
when d is 3m, EIRP[dBm] = E[dBµV/m] − 95.2

maximum field strength of 2480MHz is 85.82dBµV/m at 3m,
EIRP[dBm]=85.82[dBµV/m]-95.2= -9.38dBm
EIRP = 0.11535mW
SAR exclusion justification in accordance to KDB 447498 D01 Section 4.3.1:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f(GHz)}$] ≤ 3.0
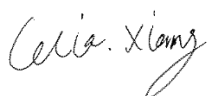[(0.11535*, mW*)/(5*, mm*)] · [$\sqrt{2.48(GHz)}$] ≤ 3.0
0.03633 ≤ 3.0
Therefore the device meets the FCC SAR exemption requirements

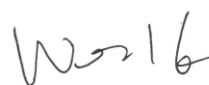TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch

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