

FCC ID: 2ARYQSOUND

According to KDB 447498 D01 General RF Exposure Guidance

At 100 MHz to 6 GHz and for test separation distances ≤ 50 mm, the SAR test exclusion threshold is determined according to the following

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \times \sqrt{f(\text{GHz})} \leq 3.0$$

1. SAR test exclusion threshold

Frequency : 2 480 MHz (min. separation distances = 0 mm)

Calculation value: $0.811 \text{ (mW)} / 5 \text{ (mm)} \times \sqrt{2.480} = 0.183$

So, Calculation value ≤ 3.0

Remark;

$$P_t = (E \times d)^2 / (30 \times g_t)$$

P_t = transmitter output power in watts

g_t = numeric gain of the transmitting antenna

E = electric field strength in V/m

d = measurement distance in meters (m)

$$E_{\text{max}} = 94.34 \text{ dB}\mu\text{V} = 0.052 \text{ V/m}, d = 3 \text{ m}, g_t = 1$$

$$P_t = (E \times d)^2 / (30 \times g_t) = (0.052 \times 3)^2 / (30 \times 1) = 0.811 \text{ (mW)}$$

-When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

2. Conclusion: No SAR is required.

3. Simultaneous transmission

DC MOTOR BLOCK: the ratio is 0.581 / 10

LED BLOCK: the ratio is 1.040 / 10

LIGHT TOUCH BLOCK: the ratio is 1.125 / 10

MASTER BLOCK: the ratio is 0.635 / 10

PROXIMITY SENSOR BLOCK: the ratio is 0.811 / 10

SOUND BLOCK: the ratio is 0.811 / 10

Confirm the sum result of individual MPEs ratio is ≤ 1.0 ;

$$(0.581 / 10) + (1.040 / 10) + (1.125 / 10) + (0.635 / 10) + (0.811 / 10) + (0.811 / 10)$$

$$= 0.500 \leq 1.0$$

So this device meets the KDB447498 D01 v06 section 7.2 requirement of "Simultaneous transmission MPE test exclusion"