

RF Exposure Estimation

1. Introduction

Applicant:	HCS (Suzhou) Limited
Address:	19F-20F, Building B-3rd, No.209 Zhuyuan Road, New District, Suzhou, P.R.China
Product:	Remote Control
FCC ID:	2AGOFRC469B
Model No.:	RC90C, RC4693702/01BRP, RC469XXXX/XXRP, RC469XXXX/XXBRP("X"=0-9,"B" means packed with battery)
Reference RF report #	709502306981-00B

2. RF Exposure Evaluation

Per the test report included herein, for 2402~2480 MHz

According to ANSI C63.10-2013 (9.5 Equations to calculate EIRP),

Calculated Data:

According to C63.10 Annex G

$$EIRP = p_t \times g_t = (E \times d)^2 / 30, \text{ so } p_t = (E \times d)^2 / 30 \times g_t$$

where

p_t is the transmitter output power in watts

g_t is the numeric gain of the transmitting antenna (dimensionless)

E is the electric field strength in V/m

d is the measurement distance in meters (m)

transmitter output power for 2402~2480MHz Function

Field strength (E):	89.50 (dBuV/m) = 0.03 (V/m)
Measurement distance (D):	3 (m)
Antenna Gain, typical (dBi):	0
Numerical gain of the transmit antenna (g_t):	1
Transmitter output power (TP):	0.000267(W)
Transmitter output power (TP):	0.267(mW)

The worst-case test separation distance is 5mm.

The product belongs to standalone portable device base the FCC rule part 2.1091&2.1093. The transmission frequencies of the device are between 100 MHz and 6 GHz. In KDB 447498 D01 v06:

4.3.1 Standalone SAR test exclusion considerations: The SAR Test Exclusion Threshold is calculated from: $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR

● $f(\text{GHz})$ is the RF channel transmit frequency in GHz

● Power and distance are rounded to the nearest mW and mm before calculation 17

● The result is rounded to one decimal place for comparison The Max Conducted Output Power and

SAR Test Exclusion Threshold (mW) are listed below:

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

TX Power + tune up tolerance = 0.267mW

Distance = 5 mm

f = 2.440 GHz

$$[0.267/5] \cdot \text{SQRT}(2.440) = 0.0834$$

$$0.0834 \leq 3.0$$

Therefore, excluded from SAR testing.

According to SAR Exclusion Threshold in KDB 447498 (D01) General RF Exposure Guidance v06, the SAR report is not required.

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

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