

## RF Exposure Compliance Requirement

Calculation formula:

$$E(V/m) = (30 \cdot P \cdot G)^{0.5} / d$$

E = Electric Field (V/m)

P = RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between EUT and antenna (m)

Remark:  $E(V/m) = 10^{(dB_{UV}/m)/20} \times 10^{-6}$

$$P = (E \cdot d)^2 / 30G$$

Or  $ERP = PG = (E \cdot d)^2 / 30$ ,  $EIRP = ERP + 2.15$  dB

in the formula above, d=3m, field strength= 80.9dBuV/m (max described by client),

So P=0.037mW

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [f(\text{GHz})] \leq 3.0 \text{ for 1-g SAR}$$

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

The Max Output Power and SAR Test Exclusion Threshold (mW) are listed below:

| Transmit Frequency (MHz) | Output power (mW) | SAR Test Exclusion Threshold (mW) |
|--------------------------|-------------------|-----------------------------------|
| 433.92                   | 0.037             | 22.77                             |

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

Test Location:

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

All tests were performed at:

Room102/104, No 203, KeZhu Road, Science City, GETDD Guangzhou, China