

RF Exposure Compliance Requirement

Calculation formula:

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

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between EUT and antenna (m)

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

in the formula above, d=3m, field strength= 51.4dBuV/m (max described by client),

G=1.0 (Antenna gain=0 dBi)

so P=0.00004mW

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 frequency of the device is below 100 MHz.

In KDB 447498 D01 v06: 4.3.1 c)2) Standalone SAR test exclusion considerations:

The SAR Test Exclusion Threshold is calculated from:

$$0.5 \times [1 + \log(100/f_{\text{(MHz)}})] \text{ mW} = 0.93 \text{ mW}$$

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

Transmit Frequency (MHz)	Output power (mW)	SAR Test Exclusion Threshold (mW)
13.56	0.00004	0.93

RFID MPE Ratio: $0.00004/0.93=0.00004$

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

WIFI/BT module's MPE ratio:

WIFI: $0.2183/1 = 0.2183$

BT: $0.0035/1 = 0.0035$

Sum of the MPE ratio for all simultaneously transmitting antennas:

$$0.00004 + 0.2183 + 0.0035 < 1$$



Total Quality. Assured.

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2. Caipin Road,
Science City, GETDD, Guangzhou, Guangdong, China

Job No.: 200720006GZU

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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