

RF Exposure Evaluation

According to *KDB 447498 D01 General RF Exposure Guidance v06* and part 2.1093, Unless specifically required by the *published RF exposure KDB procedures*, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding *SAR Test Exclusion Threshold* condition(s), listed below, is (are) satisfied.

For 100 MHz to 6 GHz and test separation distances ≤ 5 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0$$
 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where
 $f_{(\text{GHz})}$ 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

Here,

We use 5mm as separation distance to calculated.

Bluetooth DSS:

Transmit Frequency (GHz)	Mode	Measured Power (dBm)	Tune-up power (dBm)	Max tune-up power(dBm)	Result calculation	1g SAR
2.480	8DPSK	0.45	0±1	1	0.3965	3

Remark: 1. PCB Antenna gain is -0.58 dBi,

So a SAR test is not required

Results for transmit simultaneously

No.	Configurations	Maximum MPE Value			Limits
		Wireless Power Transfer($\Sigma (H_m / H_{RL})$ ^{Note})	BT	Transmit simultaneously	
1	Wireless Power Transfer +BT	0.0422	0.1322	0.1744	1

Note:

H_m = Measured magnetic field at a specific frequency.

H_{RL} = Reference level limit for the magnetic field at the measurement frequency.

According to *KDB 447498 D01 General RF Exposure Guidance v06*, At the transmit simultaneously calculation method is as follows:

Transmit simultaneously MPE = Σ of MPE ratios

MPE ratios = Field strengths or power density / MPE limit at the test frequency

No.	Configurations	Maximum MPE Value			Limits
		Wireless Power Transfer($\sum (E_m / E_{RL})$ ^{Note})	BT	Transmit simultaneously	
1	Wireless Power Transfer +BT	0.0012	0.1322	0.1334	1

Note:

E_m = Measured magnetic field at a specific frequency.

E_{RL} = Reference level limit for the magnetic field at the measurement frequency.

According to KDB 447498 D01 General RF Exposure Guidance v06, At the transmit simultaneously calculation method is as follows:

Transmit simultaneously MPE = $\sum$ of MPE ratios

MPE ratios = Field strengths or power density / MPE limit at the test frequency