



RF Exposure Evaluation according to KDB 447498 D01 v06

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Certification numbers and labeling requirements	
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1. MPE at given distance (KDB 447498 D01 General RF Exposure Guidance v06)

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

where: S = Power density
P = Power input to the antenna
G = Antenna gain
R = Distance to the center of radiation of the antenna
PG = Output Power including antenna gain

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure"

Frequency Range (MHz)	Power Density (mW/cm ²)	Averaging Time (minutes)
300 -1500	f/1500	30
1500 - 100000	1.0	30

where f = Frequency (MHz)

2. EUT technologies

Declared minimum safety distance: **20 cm**

SRD Technology	Frequency [MHz]		Reference #	Output Power [dBm]			Power Density [mW/cm ²]		Share of Limit %
	f _{Min}	f _{Max}		P _{ERP}	P _{EIRP}	P _{RF Exp}	S _{Result}	S _{Limit}	
Bluetooth Classic	2402	2480	A	N/A	10.9	10.9	0.00	1.00	0.24%
Bluetooth LE	2402	2480	B	N/A	9.2	9.2	0.00	1.00	0.17%
WLAN 2.4 GHz	2412	2462	C	N/A	27.6	27.6	0.11	1.00	11.32%
WLAN 5 GHz	5180	5240	D	N/A	29.6	29.6	0.18	1.00	17.94%
WLAN 5 GHz	5260	5320	D	N/A	29.1	29.1	0.16	1.00	15.99%
WLAN 5 GHz	5500	5700	D	N/A	28.9	28.9	0.15	1.00	15.44%
WLAN 5 GHz	5745	5825	D	N/A	29.3	29.3	0.17	1.00	16.93%

Referenced Documents:

#	Results from:
A	Test Report TR23-1-0068401T001a, pp. 21 & 26
B	Test Report TR23-1-0068401T002a, pp. 21 & 25
C	Test Report 23-1-0068401T003a, pp. 22 & 24
D	Test Report 23-1-0068401T004a, pp. 29 & 32

3. Collocation overview:

Technology	Share of Limit [%]
Bluetooth Classic/LE	0.24%
WLAN 2.4 GHz	11.32%
WLAN 5 GHz	17.94%
Sum	29.50%

4. Conclusion

This prediction demonstrates the following:

The power density levels for FCC at a distance of 20 cm are below the maximum levels allowed by regulations.

Conclusion: RF exposure evaluation is not required.