

RF exposure calculations

Nordic ID: Morphic

Limit: Table 1 of CFR 47, §1.1310

Frequency (MHz)	Power Density (mW/cm ²)
300-1500	f / 1500
1500-100000	1.0

Power density (S) is calculated based on equation in OET Bulletin 65 edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

S= power density (mW/cm²)
 P= input power to antenna
 G= gain of the antenna
 R= distance from the antenna (5 cm)

Calculations

input cells

WLAN module:

FCC ID: TWG-SDCMSD30AG

Frequency (MHz)	P (dBm)	P(W)	G (dBi)	G (lin)	R	S (mW/cm ²)	Limit	Ratio
2400 - 2483,5 MHz	20,90	0,123	0,70	1,17	5	0,460	1,0	0,46

UHF RFID:

Frequency (MHz)	P (dBm)	P(W)	G (dBi)	G (lin)	R	S (mW/cm ²)	Limit	Ratio
902,75 - 927,25 MHz	16,405	0,044	2,00	1,58	5	0,220	0,60	0,37

BlueTooth:

Frequency (MHz)	P (dBm)	P(W)	G (dBi)	G (lin)	R	S (mW/cm ²)	Limit	Ratio
2400 - 2483,5 MHz	-3	0,001	1,50	1,41	5	0,002	1,0	0,00

Sum of ratios: **0,83**
 (Required to be less than 1)

