Nemko
ONE WORLD ○ OUR APPROVAL

Prediction of MPE limit at a given distance

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

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

where:
S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

	BT	BLE
Maximum peak output power at device output terminal:	10.98	0.76
Cable and Jumper loss:	0	0
Maximum peak output power at antenna input terminal:	10.98	0.76
	12.53141175	1.191242008
Single Antenna gain (typical):	3.6	3.6
Number of Antennae:	1	1
Total Antenna gain (typical):	3.6	3.6
	2.290867653	2.290867653
Prediction distance:	20	20
Prediction frequency:	2402	2442
MPE limit for uncontrolled exposure at prediction frequency:	1	1
Power density at prediction frequency:	0.005711237	0.000542913
	0.057112365	0.005429129
Tx On time:	1	1
Tx period time:	1	1
Average Factor:	100	100
Average Power density at prediction frequency:	0.057112365	0.005429129

Margin of Compliance:

Even if all were transmitting simultaneously the total would be much less than 1

2.4GHz	5GHz	
18.94	16.58	dBm
0	0	dB
18.94	16.58	dBm
78.34296428	45.49880602	mW
3.6	5.1	dBi
1	1	
3.6	5.1	dBi
2.290867653	3.235936569	(numeric)
20	20	cm
2462	5300	MHz
1	1	mW/cm^2
0.035705091	0.029290727	mW/cm^2
0.35705091	0.292907266	W/m^2
1	1	ms
1	1	ms
100	100	%
0.35705091	0.292907266	W/m^2