Calculation and sample for Confirmation

Dear Reviewer,

As specified in Table 1B of 47 CFR 1.1310 – Limits for Maximum Permissible Exposure(MPE), Limits for General Population/Uncontrolled Exposure:

Frequency range (MHz)	*Power density (mW/cm²)*
300 – 1,500	**f/1500**
1,500 – 100,000	1.0

The RF Exposure level is calculated using the general equation:

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

the EUT antenna gain is 2 dBi

R = 20 cm

π = 3.1416

The power density limit is:

For 1,500 – 100,000MHz: 1.0 mW/cm^{2c}

Solving for S, the power density at 2 cm is

For BT 4.1 BR/EDR

GFSK

Frequency(MHz)	dBm	mW	G(dBi)	Numeric	R(cm)	S(mW/cm2)	Limit(mW/cm2)
2402-2480	3	2.00	2.00	1.6	20	**0.00063**	1

π /4-DQPSK

Frequency(MHz)	dBm	mW	G(dBi)	Numeric	R(cm)	S(mW/cm2)	Limit(mW/cm2)
2402-2480	-3	0.50	2.00	1.6	20	**0.00016**	1

8-DPSK

Frequency(MHz)	dBm	mW	G(dBi)	Numeric	R(cm)	S(mW/cm2)	Limit(mW/cm2)
2402-2480	-3	0.50	2.00	1.6	20	**0.00016**	1

For WIFI:

802.11b:

Frequency(MHz)	dBm	mW	G(dBi)	Numeric	R(cm)	S(mW/cm2)	Limit(mW/cm2)
2412-2462	18	63.10	2.00	1.6	20	**0.01989**	1

802.11g:

Frequency(MHz)	dBm	mW	G(dBi)	Numeric	R(cm)	S(mW/cm2)	Limit(mW/cm2)
2412-2462	11	12.59	2.00	1.6	20	**0.00397**	1

802.11n-20:

Frequency(MHz)	dBm	mW	G(dBi)	Numeric	R(cm)	S(mW/cm2)	Limit(mW/cm2)
2412-2462	10	10.00	2.00	1.6	20	**0.00315**	1

So, the power densityis kept.

Please contact us if you have any additional questions.

Best Regards

Skylabs

Wu Hongfei