

2 Applicable Standard

According to FCC Rule Part 1.1307 (b)(3)(i)(C) and KDB 447498 D04 v01:

The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency.

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits.

RF Source Frequency (MHz)	Minimum Distance		Threshold ERP (W)
	$\lambda_L/2\pi$	$\lambda_H/2\pi$	
0.3-1.34	159 m-35.6 m		$1,920 R^2$
1.34-30	35.6m-1.6m		$3,450 R^2/f^2$
30-300	1.6 m-159 mm		$3.83 R^2$
300-1,500	159 mm-31.8 mm		$0.0128 R^2f$
1,500-100,000	31.8mm-0.5mm		$19.2 R^2$
R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters.			

For Multiple RF sources: FCC Rule Part 1.1307(b)(3)(ii):

(A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required).

(B) In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

3 Calculation Result

For Single RF Source

Radio Access Technology	Min. Frequency (MHz)	Max. Output Power (dBm)	Max. Tune-up Output Power (dBm)	Antenna Gain (dBi)	Min. Distance (cm)	Max. Tune-up ERP		Limit Threshold (mW)
						(dBm)	(mW)	
MSK ANT 1	2402	10.524	11	0.65	20	9.50	8.91	768
MSK ANT 2	2402	10.642	11	0.65	20	9.50	8.91	768

Result: Pass

For Multiple RF Sources (Simultaneous Operations)

Radio Access Technology	Min. Frequency (MHz)	Max. Tune-up ERP (mW)	Limit Threshold (mW)	Simultaneous Ratio	Sum of ratios	Limit of Ratios
-	-	-	-	-	-	-

Note: ANT 1 and ANT 2 cannot simultaneous transmission.

Note:

1. EIRP= Output Power + Antenna gain; ERP=EIRP-2.15dB
2. Ratio= Tune-Up ERP(mW)/ Exposure Limit (mW)

====End of Report=====