

MPE Calculator: Enter frequency, cable loss, antenna gain in dBi and output power in watts					
MPE uses EIRP for calculation. EIRP is based on TX power added to the antenna gain in dBi.					
dBi = dB gain compared to an isotropic radiator.					
S = power density in mW/cm ²					
				Antenna Gain (dBi)	14
				dB _d to dB _d	2.17
Tx Frequency (MHz)	915	Output Power (Watts)	2.2803	dB _d + 2.17 = dB _d	
Cable Loss (dB)	0.0	(dBm)	33.58	Antenna Gain (dB _d)	11.83
Calculated ERP (mw)	34673.685			Antenna minus cable (dB _d)	14.00
Calculated EIRP (mw)	57147.864			ERP = EIRP - 2.17 dB	
				Radiated (ERP) dBm	45.400
				EIRP = Po(dBm) + Gain (dB)	
				Radiated (EIRP) dBm	47.570
FCC					
FCC radio frequency radiation exposure limits per 1.1310					
Power Density Limits					
Frequency (MHz)		Occupational Limit	Public Limit		
300-1,500		f/300	f/1500		
Calculated Limits		Occupational	General Public	Power Density (mW/cm ²)	
		3.05	0.61		
IC					
IC radio frequency radiation exposure limits per RSS-102					
Power Density Limits					
Frequency (MHz)		Controlled Env	Uncontrolled Env		
100-6,000		0.6455f ^{0.5}			
300-6,000		0.02619f ^{0.6834}			
Calculated Limits		Occupational	General Public	Power Density (mW/cm ²)	
		1.95	0.277		
OSHA					
OSHA radio frequency radiation exposure limits per 1910.97					
Power Density Limits					
Frequency (MHz)		Limit			
10-100,000		10 mW/cm ²			
Calculated Limits		Occupational	General Public	Power Density (mW/cm ²)	
		10.00	10.00		
Occupational Limit					
General Public Limit					
	Power Density (mW/cm ²)	Minimum Distance Calc (cm)	Minimum Distance Rounded Up (cm)	Power Density (mW/cm ²)	Minimum Distance Calc (cm)
FCC	3.05	38.61	39	0.61	86.34
IC	1.95	48.26	49	0.28	128.21
OSHA	10.00	21.33	22	10.00	21.33
		Overall Minimum Limit Occupational		Overall Minimum Limit General Public	
		49	<-cm	129	<-cm
		20	<-in	51	<-in

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Revision 1

Transcore
HVIN: MPRX45
PMN: MPRX
Test to: 47CFR Parts 2, 90 and RSS-137
File: MPRX RFExp

SN's: 21104849, 21230053
FCC ID: FIHMPRXPT90V45
IC: 1584A-MPRXR137V45
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