Compatible Electronics, Inc.
https://celectronics.com

114 Olinda Drive
Brea, CA 92823

Power Density Based on 20 separation distance (cm)

2480	Frequency (MHz)
7	Power to Antenna (dBm)
3.4	Antenna gain (dBi)

0.002181
Power Density (mW/cm2)

Canada	FCC	
0.547	1	Limit (mW/cm2)
0.545	0.998	Margin
0.004	0.002	MPE Ratio

(General Population)

Device FCC ID XV6AIDA
Date 4/13/2023
Prepared By Kyle F.

BLE Transmitter

FCC

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f^2	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f^2	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

Canada

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m^2)	Reference Period (minutes)
$0.003\text{-}10^{21}$	83	90	-	Instantaneous*
0.1-10	-	$0.73/f$	-	6**
1.1-10	$87/f^{0.5}$	-	-	6**
10-20	27.46	0.0728	2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142f^{0.3417}$	$0.008335f^{0.3417}$	$0.02619f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

Note: f is frequency in MHz.
*Based on nerve stimulation (NS).
** Based on specific absorption rate (SAR).

POWER DENSITY ESTIMATIONS BASED ON POWER OUTPUT, ANTENNA GAIN, AND DISTANCE FROM ANTENNA

$$(P\,G)/(4\,R^{2}\,\pi) = S$$

where:			transmitter operating variables:		must be blank if dB values are entered	
S =	maximum power density (mW/cm^2)					
P =	power input to the antenna ----------->>	=	7 (dBm)	- or -		(mW)
G =	gain of the antenna - worst case ----------->>	=	3.4 (dBi)	- or -		(numeric gain)
R =	distance to the center of the radiation of the antenna -->>	=	20			(cm)

(P G) / (4 * R ² * π)	=	S	(mW/cm^2)
(5.01187234 (mw) 2.18776 (gain)) / (4 * 20 (cm) ² * π)	=	S	(mW/cm^2)
(10.96478196) / (4 * 400 * π ₃)	=	S	(mW/cm^2)
(10.96478196) / (5026.548246)	=	0.002181	(mW/cm^2)