

## RF exposure exhibit

### FCC RF Exposure Requirements

#### General information:

FCC ID: QBTLTK-1900R

Modulation:

Device category: Mobile per Part 2.1091

Environment: General Population/Uncontrolled Exposure

Otherwise, compliance with the power density limits of 1.1310 is required.

#### Antenna:

The device has a portable antenna to be used for the purpose of reading tags

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Indoor	None	Helical	0.5

#### Operating configuration and exposure conditions:

The conducted output power is 0.63W

#### MPE Calculation:

The minimum separation distance is calculated as follows:

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power density: } P_d(mW/cm^2) = \frac{E^2}{3770}$$

The limit for general population/uncontrolled exposure environment is **0.31** mW/cm2\*  
for a Channel Frequency: 457.5750 MHz

(A)

Separation Distance		Antenna Gain (dBi)	
		0.5	
Power Conducted (W)	Duty Cycle (%)	(in)	(cm)
0.63	100		13.5
-	-	-	-

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**Conclusion:**

*The device complies with the MPE requirements by providing a safe separation distance of 20 cm between the antenna, including any radiating structure, and any persons when normally operated .*

\*

<b>(A) Limits for Occupational/Controlled Exposure</b>				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30
f = frequency in MHz		*Plane-wave equivalent power density		