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## Maximum Permissible Exposure Evaluation

FCC ID: 2A62D-LFP

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

### EUT Specification

Product Name:	LiFePO4 Batery
Trade Mark:	Champion Power
Model/Type reference:	LFP12.8-100
Listed Model(s):	LFP12.8-40, LFP12.8-50, LFP12.8-60, LFP12.8-80, LFP12.8-100, LFP12.8-120, LFP12.8-150, LFP12.8-200, LFP12.8-280, LFP12.8-300
Frequency band (Operating)	BT: 2.402GHz ~ 2.480GHz
Device category	<input type="checkbox"/> Portable (<5mm separation) <input type="checkbox"/> Mobile (>20cm separation) <input checked="" type="checkbox"/> Fixed (>20cm separation) <input type="checkbox"/> Others _____
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S=5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
Antenna diversity	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
Antenna gain (Max)	2.81dBi
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

### Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm <sup>2</sup> )	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

$P_d$ = Power density in  $\text{mW/cm}^2$

$P_{out}$ = output power to antenna in  $\text{mW}$

$G$ = gain of antenna in linear scale

$\pi = 3.1416$

$R$ = distance between observation point and center of the radiator in  $\text{cm}$

$P_d$  the limit of MPE  $1\text{mW/cm}^2$ . If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, We will know the distance where the MPE limit is reached.

#### Measurement Result

*Only show the value of the worst antenna.*

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Power Density at 20cm ( $\text{mW/cm}^2$ )	Limit ( $\text{mW/cm}^2$ )
BLE	2440	2.81	3.368	$3 \pm 1$	4	0.001	1.000

Note:

For a more detailed features description, Please refer to the RF Test Report.

So the transmitter complies with the RF exposure requirements and the SAR is not required.

\*\*\*\*\*THE END\*\*\*\*\*