

RF EXPOSURE EVALUATION

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)

FCC ID: 2BBH5-SYZ-R2000

EUT Specification

EUT	portable power station
Frequency band (Operating)	☒ BLE: 2.402GHz ~ 2.480GHz
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm ²) ☒ General Population/Uncontrolled exposure(S=1mW/cm ²)
Antenna diversity	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Max. output power (peak power)	Bluetooth LE: -2.82dBm, Bluetooth 2LE: -2.82dBm
Antenna gain (Max)	3.08dBi
Evaluation applied	☒ MPE Evaluation ☐ 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 ²)	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: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm², P_{out} =output power to antenna in Mw

G = gain of antenna in linear scale, π =3.1416

R = distance between observation point and center of the radiator in cm=20cm

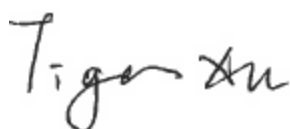
At the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

Mode	Max Measure d Power (dBm)	Tune up Power (dBm)	Max tune up power(dBm)	Power Density(m W/cm ²)	Limit (mW/cm ²)
BLE 1Mbps	-2.82	-3±1	-2	0.000255	1
BLE 2Mbps	-2.82	-3±1	-2	0.000255	1

The Product unsupported at the same time to Transmitting. According to KDB 447498, and no simultaneous SAR measurement is required.

Signature:



Tiger Xu

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