RF Exposure Evaluation

FCC ID: 2A4PQ-AP-SS-008

1. Client Information

Applicant	:	ALLPOWERS Industrial International Limited
Address	:	Floor 1-4, Building No.2, No.182 Kaiyuan Avenue, Huangpu District, Guangzhou, China
Manufacturer	:	ALLPOWERS Industrial International Limited
Address	:	Floor 1-4, Building No.2, No.182 Kaiyuan Avenue, Huangpu District, Guangzhou, China

2. General Description of EUT

EUT Name	:	Portable Power Station	
Model(s)	:	AP-SS-008, AP-SS-002, AP-SS-005, AP-SS-007, AP-SS-009, AP-SS-011, AP-SS-009-PRO, AP-SS-008-BLA, AP-SS-008-BLA-US, AP-SS-008-BLA-US-NEW, AP-SS-008-BLA-CA, AP-SS-008-BLA-CA-NEW, AP-SS-008-BLA-US-1500W, AP-SS-1500W, AP-S1500, AP-S1500-US, AP-SS-008-1500W, AP-SS-008-1500W-NEW, AP-SS-008-1500W-US, WHF-AP-SS-008, WHF-AP-SS-008-BLA, WHF-AP-SS-008-BLA-US, WHF-AP-SS-008-BLA-CA, WHF-AP-SS-008-BLA-US-NEW, WHF-AP-SS-008-1500W, WHF-AP-S1500	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is different customers, different model name.	
Product Description	:	Operation Frequency:	Bluetooth 4.0(BLE): 2402MHz~2480MHz
		Number of Channel:	40 channels
		Antenna Gain:	1.58dBi PCB Antenna
		Modulation Type:	GFSK
		Bit Rate of Transmitter:	1/2Mbps
Power Rating	:	For Adapter (YHY-30010000) Input: 100-240V~ 50/60Hz 4.0A Output: 30V⎓10.0A DC 3.7V by 295200mAh Rechargeable Li-ion battery	
Software Version	:	V1.1	
Hardware Version	:	V1.0	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark: The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.			

Note: More test information about the EUT please refer the RF Test Report.

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SAR Test Exclusion Calculations

1. **FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.**
   (1) Clause 4.3: General SAR test reduction and exclusion guidance
   Sub clause 4.31: Standalone SAR test exclusion considerations
   1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance≤5 mm are determined by:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤7.5.0 for 10-g SAR

2. Calculation:

Test separation: 5mm						
BLE Mode (1Mbps)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-0.88	0±1	1	1.259	0.390	**3.0**
2.440	-1.011	-1±1	0	1.000	0.312	**3.0**
2.480	-1.154	-1±1	0	1.000	0.315	**3.0**
BLE Mode (2Mbps)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-0.881	0±1	1	1.259	0.390	**3.0**
2.440	-0.956	0±1	1	1.259	0.393	**3.0**
2.480	-1.015	-1±1	0	1.000	0.315	**3.0**

Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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