

FCC 47 CFR MPE REPORT

Blok Party, Inc.

Tablo

Model Number: PT1C

Additional Model: PT1A, PT1B

FCC ID: 2AUB4-5411

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Maximum Permissible Exposure

1、Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(a)、Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E 2 , H 2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			5	6

(b)、Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E 2 , H 2 or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

2、MPE Calculation Method

$$E \text{ (V/m)} = (30 \cdot P \cdot G)^{0.5} / d \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = E^2 / 377$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = (30 \cdot P \cdot G) / (377 \cdot d^2)$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

3、Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)	Antenna gain	
					(dBi)	(Linear)
GFSK	2402	4.62	2.897	4 ± 1	2	1.58489
	2441	3.06	2.023	3 ± 1	2	1.58489
	2480	1.30	1.349	1 ± 1	2	1.58489
8-DPSK	2402	1.43	1.390	1 ± 1	2	1.58489
	2441	0.62	1.153	0 ± 1	2	1.58489
	2480	-1.39	0.726	-1 ± 1	2	1.58489
BLE	2402	4.82	3.034	4 ± 1	2	1.58489
	2440	3.61	2.296	3 ± 1	2	1.58489
	2480	1.77	1.503	1 ± 1	2	1.58489
IEEE 802.11b	2412	17.97	62.661	17 ± 1	2	1.58489
	2437	17.79	60.117	17 ± 1	2	1.58489
	2462	17.12	51.523	17 ± 1	2	1.58489
IEEE 802.11g	2412	22.88	194.089	22 ± 1	2	1.58489
	2437	22.84	192.309	22 ± 1	2	1.58489
	2462	22.20	165.959	22 ± 1	2	1.58489
IEEE 802.11n HT20	2412	21.54	142.561	21 ± 1	2	1.58489
	2437	21.50	141.254	21 ± 1	2	1.58489
	2462	21.10	128.825	21 ± 1	2	1.58489
IEEE 802.11a	5180	14.24	26.546	14 ± 1	2	1.58489
	5200	13.39	21.827	13 ± 1	2	1.58489
	5240	13.16	20.701	13 ± 1	2	1.58489
	5745	11.04	12.706	11 ± 1	2	1.58489
	5785	12.37	17.258	12 ± 1	2	1.58489
	5825	12.48	17.701	12 ± 1	2	1.58489
IEEE 802.11n	5180	14.05	25.410	14 ± 1	2	1.58489
	5200	13.14	20.606	13 ± 1	2	1.58489
	5240	12.95	19.724	12 ± 1	2	1.58489
	5745	10.76	11.912	10 ± 1	2	1.58489
	5785	11.97	15.740	11 ± 1	2	1.58489
	5825	12.12	16.293	12 ± 1	2	1.58489
IEEE 802.11ac	5180	14.06	25.468	14 ± 1	2	1.58489
	5200	13.13	20.559	13 ± 1	2	1.58489

	5240	12.93	19.634	12 ± 1	2	1.58489
	5745	10.84	12.134	10 ± 1	2	1.58489
	5785	11.95	15.668	11 ± 1	2	1.58489
	5825	12.14	16.368	12 ± 1	2	1.58489
IEEE 802.11n HT40	5190	13.27	21.232	13 ± 1	2	1.58489
	5230	12.49	17.742	12 ± 1	2	1.58489
	5755	10.75	11.885	10 ± 1	2	1.58489
	5795	11.94	15.631	11 ± 1	2	1.58489
IEEE 802.11ac HT40	5190	13.27	21.232	13 ± 1	2	1.58489
	5230	12.52	17.865	12 ± 1	2	1.58489
	5755	10.89	12.274	10 ± 1	2	1.58489
	5795	11.96	15.704	11 ± 1	2	1.58489
IEEE 802.11ac HT80	5210	13.09	20.370	13 ± 1	2	1.58489
	5775	11.80	15.136	11 ± 1	2	1.58489

4、Calculated Result and Limit

Mode	Target power (dBm)	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
2.4G Band						
IEEE 802.11b	18	2	1.58489	0.01989	1	Compiles
IEEE 802.11g	23	2	1.58489	0.06291	1	Compiles
IEEE 802.11n HT20	22	2	1.58489	0.04997	1	Compiles
GFSK	5	2	1.58489	0.00100	1	Compiles
8-DPSK	2	2	1.58489	0.00050	1	Compiles
BLE	5	2	1.58489	0.00100	1	Compiles
IEEE 802.11a	15	2	1.58489	0.00997	1	Compiles
IEEE 802.11n	15	2	1.58489	0.00997	1	Compiles
IEEE 802.11ac	15	2	1.58489	0.00997	1	Compiles
IEEE 802.11n HT40	14	2	1.58489	0.00792	1	Compiles
IEEE 802.11ac HT40	14	2	1.58489	0.00792	1	Compiles
IEEE 802.11ac HT80	14	2	1.58489	0.00792	1	Compiles

Mode	Power Density (S) (mW/cm ²)	Power Density (S) (mW/cm ²)	Power Density (S) (mW/cm ²) Total	Limited of Power Density (S) (mW/cm ²)	Test Result
BT+2.4G Band	0.00100	0.06291	0.06391	1	Compiles
BT+5G Band	0.00100	0.00997	0.01097		Compiles