

MPE REPORT

FCC ID: 2AP8G-MK100

Date of issue: June 23, 2018

Report Number: MTi180620E071

Sample Description: Internet Radio

Model(s): MK100, BT20

Applicant: Jwoodaudio Industry Co., Ltd.

Address: No.4 Industrial District, Liuwu Village, Yuanzhou Town,
Huizhou City China.

Date of Test: June 13, 2018 to June 23, 2018

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

TEST RESULT CERTIFICATION	
Applicant's name:	Jwoodaudio Industry Co., Ltd.
Address:	No.4 Industrial District, Liuwu Village, Yuanzhou Town, Huizhou City China.
Manufacture's Name:	Jwoodaudio Industry Co., Ltd.
Address:	No.4 Industrial District, Liuwu Village, Yuanzhou Town, Huizhou City China.
Product name:	Internet Radio
Trademark:	NAKIRADIO / JWOOD
Model name:	MK100
Series model:	BT20
Difference in series models:	The wireless module used in the product is the same, Just a trademark is different.
RF Exposure Procedures:	KDB 447498 D01 v06

This device described above has been tested by Shenzhen Microtest Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by:



Demi Mu

June 23, 2018

Reviewed by:



Blue Zheng

June 23, 2018

Approved by:



Smith Chen

June 23, 2018

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)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

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

MPE Calculation Method

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

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.14115926

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

P_d 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

WIFI:

Operation Frequency: WIFI 802.11b/g/n HT20: 2412-2462MHz,

Power density limited: 1mW/ cm²

Antenna Type: Wifi Antenna: PCB Antenna

WIFI antenna gain: 4dBi

R=20cm

$mW=10^{(dBm/10)}$

antenna gain Numeric= $10^{(dBi/10)}=10^{(4/10)}=2.51$

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm ²)	(mW/cm ²)
				(dBm)	(mW)	Numeric		
		Ant A	Ant A	Ant A	Ant A	Ant A	Ant A	
2412	802.11b	11.72	11±1	12	15.84893	2.51	0.00791	1
2437		11.86	11±1	12	15.84893	2.51	0.00791	1
2462		11.74	11±1	12	15.84893	2.51	0.00791	1
2412	802.11g	9.31	9±1	10	10	2.51	0.00499	1
2437		9.08	9±1	10	10	2.51	0.00499	1
2462		8.79	9±1	10	10	2.51	0.00499	1
2412	802.11n H20	9.32	9±1	10	10	2.51	0.00499	1
2437		9.37	9±1	10	10	2.51	0.00499	1
2462		9.54	9±1	10	10	2.51	0.00499	1

Conclusion:

For the max result: $0.00791 \leq 1.0$ for 1g SAR, No SAR is required.

----END OF REPORT----