

# RF Exposure Evaluation

## FCC ID: 2AAYG-F4

### 1. Client Information

**Applicant** : Shenzhen Kaiboer Technology Co., Ltd  
**Address** : 4F,11#,Dongfang Jianfu Yusheng Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, 518126 China  
**Manufacturer** : Shenzhen Kaiboer Technology Co., Ltd  
**Address** : 4F,11#,Dongfang Jianfu Yusheng Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, 518126 China

### 2. General Description of EUT

<b>EUT Name</b>	:	Android Smart TV Box	
<b>Models No.</b>	:	F4	
<b>Model Difference</b>	:	N/A	
<b>Product Description</b>	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40):2422MHz~2452MHz	
		Number of Channel:	802.11b/g/n(HT20):11 channels 802.11n(HT40):9channels
		Out Power	802.11b: 18.47 dBm 802.11g: 16.72 dBm 802.11n (HT20): 17.78 dBm 802.11n(HT40): 17.08 dBm
		Antenna Gain:	2 dBi (Dipole Antenna*2)
		Modulation Type:	802.11b: CCK, QPSK, BPSK 802.11g: OFDM 802.11n (20M): OFDM

		Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps
<b>Power Supply</b>	:	DC power from AC/DC Adapter.	
<b>Power Rating</b>	:	AC/DC Adapter: Input: AC 100~240V 50/60 Hz Output: DC 5V 2A	
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual	

**Note:**

- (1) More detail information about Equipment, please refer to User's manual, more information about the RF, please refer to test report.
- (2) Antenna information provided by the applicant.

Ant. No.	Brand	Model Name	Antenna Type	Gain (dBi)
2	N/A	L180	Dipole Ant.	2.0

## MPE Calculations for WIFI

### 1. Antenna Gain:

Dipole Antenna: 2 dBi.

### 2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

### 3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = (PG) / 4\pi R^2$$

Where

**S**: power density

**P**: power input to the antenna

**G**: power gain of the antenna in the direction of interest relative to an isotropic radiator.

**R**: distance to the center of radiation of the antenna

### 4. Test Result:

Worst Maximum MPE Result						
Mode	N <sub>TX</sub>	Frequency (MHz)	Power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]
802.11b	1	2462	18.47	2	20	0.0222
802.11g	1	2462	16.72	2	20	0.0148
802.11n (HT20)	2	2462	17.78	2	20	0.0189
802.11n (HT40)	2	2452	17.08	2	20	0.0161
<b>Note:</b> (1) N <sub>TX</sub> = Number of Transmit Antennas (2) RF Output power specifies that Maximum Conducted Peak Output Power.						

### 5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

#### Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm <sup>2</sup> )
300-1,500	F/1500
1,500-100,000	1.0

For 802.11b/g/n (2412~2462 MHz)

MPE limit S: 1 mW/ cm<sup>2</sup>

The MPE is calculated as 0.0222mW / cm<sup>2</sup> < limit 1 mW / cm<sup>2</sup>. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

**Note**

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