Maximum Permissible Exposure Evaluation

FCC ID: A5M-SNOWMAN

1. Client Information

Applicant	:	Lenovo (Beijing) Limited
Address	:	No.6 Chuang Ye Road, Shangdi Information Industry Haidian District, Beijing, China
Manufacturer	:	HangZhou XiongMai Technology CO., LTD.
Address	:	9th Floor, Building 9, Yinhu Innovation Center, No.9 FuXian Road, YinHu Street, Hangzhou, China

2. General Description of EUT

EUT Name	:	Snowman S	
Models No.	:	Snowman S, Snowman, Thinker, ThinkLife C	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance color.	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
		Number of Channel:	802.11b/g/n(HT20):11 channels **see note(3)** 802.11n(HT40): 7 channels **see note(3)**
		RF Output Power:	802.11b: 16.87dBm 802.11g: 14.67dBm 802.11n (HT20): 14.65dBm 802.11n (HT40): 14.52dBm
		Antenna Gain:	2.5dBi Internal Antenna
		Modulation Type:	802.11b: DSSS(CCK, QPSK, BPSK) 802.11g: OFDM 802.11n: 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
Power Supply	:	DC Voltage supplied by AC/DC Adapter	

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Power Rating	:	AC/DC Adapter Model(BT-TC-015): Input: AC 120~240V 50-60Hz 0.3A Output: DC 5V/1.5A
Connecting I/O Port(S)	:	Please refer to the User's Manual
Note: More information about the RF function, please refer the RF test reports.		

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MPE Calculations for WIFI

1. **Antenna Gain:**
   Internal Antenna: 2.5dBi.

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_{TX}	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/cm^2) [S]
802.11b	1	16.87	16±1	17	2.5	20	0.01773
802.11g	1	14.67	14±1	15	2.5	20	0.01119
802.11n (HT20)	1	14.65	14±1	15	2.5	20	0.01119
802.11n (HT40)	1	14.52	14±1	15	2.5	20	0.01119

Note:
(1) N_{TX}= 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^2)
300-1,500	F/1500
1,500-100,000	1.0

For 802.11b/g/n (2412~2462 MHz)
MPE limit S: $1mW/cm^2$
The MPE is calculated as ***0.01773***mW/cm^2 < limit $1mW/cm^2$. 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.

-----END OF REPORT-----