Radio Frequency Exposure Report

On Behalf of

E-matic

3435 Ocean Park Blvd. #107 PMB# 29 Santa Monica, CA 90405

FCC ID:	**XHW-ET43KDBP**
Product Description:	**Tablet PC**
Model No.:	**FTABMP**
Supplementary Model:	**FTABMB (the difference of these models is appearance color)**
Prepared for:	**E-matic** 3435 Ocean Park Blvd. #107 PMB# 29 Santa Monica, CA 90405
Prepared by:	**Bontek Compliance Testing Laboratory Ltd** 1/F, Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East Road, Nanshan, Shenzhen, China Tel: 86-755-86337020 Fax: 86-755-86337028
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Test by:	**Reviewed By:**
Vincent Jiang	Kevin Chi

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1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Applicant:	**Graupner GmbH & Co. KG**
Address of Applicant:	3435 Ocean Park Blvd. #107 PMB# 29 Santa Monica, CA 90405
Manufacturer:	**Shenzhen SmartBlue Technology Limited**
Address of Manufacturer:	7F, No.6 Building, Yusheng Industrial Zone, No.467 Xixiang section of 107 National Rd, Xixiang Street, Bao'an District, Shenzhen

General Description of E.U.T

Items	Description
EUT Description:	**Tablet PC**
Trade Name:	**E-matic**
Model No.:	**FTABMP**
Supplementary Model:	FTABMB (the difference of these models is appearance color)
Frequency Band:	IEEE 802.11b/g, IEEE 802.11n HT20 (DTS Band) : 2412MHz～2462MHz, IEEE 802.11n HT40 (DTS Band) : 2422MHz～2452MHz
Channel Spacing:	IEEE 802.11b/g, 802.11n HT20/HT40: 5MHz
Number of Channels:	IEEE 802.11b/g, 802.11n HT20:11 Channels IEEE 802.11n HT40 :7 Channels
Transmit Data Rate:	IEEE802.11b : 11 , 5.5 , 2 , 1 Mbps IEEE802.11g : 54 , 48 , 36 , 24 ,18 , 12 , 9 , 6 Mbps IEEE802.11n HT20 : 130 , 117 , 104 , 78 , 52 , 39 , 26 , 13 Mbps IEEE802.11n HT40 : 270 , 243 , 216 , 162 , 108 , 81 , 54 , 27 Mbps
Type of Modulation:	IEEE 802.11b：DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g：OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20/40：OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Type:	Built-in Antenna
Antenna Gain:	1dBi
Power Supply:	Input: DC3.7V 1100mAh for build-in battery
Adapter Information:	Model:FKS106HSC-0501500U Input:100-240V 50/60Hz 0.25A Max Output: 5VDC 1.5A

Remark: * *The test data gathered are from the production sample provided by the manufacturer.*

1.2 Objective

The objective of the following report is used to demonstrate that EUT operated in a manner that ensures the public is not exposed to radio frequency energy levels in excess of the relative provisions of FCC 47CFR Part 1.1307

1.3 General Description of Test

Items	Description
EUT Frequency band	☐ FHSS: 2.400GHz ~ 2.483GHz ☒ WLAN: 2.400GHz ~ 2.483GHz ☐ WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz ☐ WLAN: 5.745GHz ~ 5825GHz ☐Others: _____
Device category	☒Portable (<20cm separation) ☐Mobile (>20cm separation) ☐Others _____
Exposure classification	☐Occupational/Controlled exposure (S = 5mW/cm2) ☐General Population/Uncontrolled exposure (S=1mW/cm^2) ☒Others: _____
Antenna diversity	☒Single antenna ☐Multiple antennas: ☐Tx diversity ☐Rx diversity ☐Tx/Rx diversity
Max. output power	10.29dBm (0.010691W)
Antenna gain (Max)	1 dBi (Numeric gain:10)
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation
Note: 1. The maximum output power is 10.29dBm (0.010691W) at 2412MHz of IEEE 802.11b mode (with 10 numeric antenna gain.) *2. For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20 cm, even if the calculations indicate that the MPE distance would be lesser.*	

1.4 Human Exposure Assessment Results

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$

Where E = *Field Strength in Volts / meter*
P = *Power in Watts*
G=*Numeric antenna gain*
d=*Distance in meters*
S=*Power Density in milliwatts / square centimeter*

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and
*d (cm) =100 * d (m)*

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$ ***Equation 1***

Where d = *distance in cm*
P = *Power in mW*
G = *Numeric antenna gain*
S = *Power Density in* mW / cm^2

EUT parameter (data from the separate report)	
Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$	Where G: numerical gain of transmitting antenna; TP: Transmitted power in watt; d: distance from the transmitting antenna in meter
Max average output power in Watt (TP)	10.29dBm (0.010691W)
Antenna gain (G)	1 dBi (Numeric gain: 10)
Minimum distance in meter (d) (from transmitting structure to the human body)	20cm (0.2m)
Yields E =8.95405V/m S=0.02127 mW/cm^2	
Conclusion: S=0.02127 mW/cm^2 is significant lower than the 1 mW/cm^2 (For mobile or fixed location transmitters, the maximum power density is 1.0 mW/cm^2 even if the calculation indicates that the power density would be larger.)	