RF Exposure Test Report

for

Mitac Technology Corp. B300

Equipment	**: Notebook PC**
Trade Name	**: GETAC; MTC**
Model No.	**: B300**
FCC ID	**: MAU301**
Filing Type	**: Certification**
Applicant	**: Mitac Technology Corp.** 9th FL., No. 75, Ming Sheng E. Rd., Sec. 3, Taipei, Taiwan

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

Maximum Permissible Exposure Test Report

for

B300

1.0 Introduction

The report has been prepared on behalf of **Mitac Technology Corp. B300** to show compliance with the RF Exposure.

1.1 Requirements

Three different categories of transmitters are defined by the FCC in OET Bulletin 65. These categories are fixed installation, mobile and portable and are defined as follows:

- **Fixed installation:** fixed location means that the device, including its antenna, is physically secured at a permanent location and is not able to be easily moved to another location. Additionally, distance to humans form the antenna is maintained to at least 2 meters.

- **Mobile Devices:** a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to be generally used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structures and the body of the user or nearby persons. Transmitters designed to be used by consumers or workers that can be easily re-located are considered mobile devices if they meet the 20 centimeter separation requirement. The FCC rules for evaluating mobile devices for RF compliance are found in 47 CFR 2.1091.

- **Portable Devices:** a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user. Portable device requirements are found in Section 2.1093 of the FCC's Rules (47 CFR 2.1093)

For this test report the Mitac Technology Corp. B300 is being done as a mobile device and the MPE is evaluated at the 20cm test distance.

The FCC also categorizes the use of the device as based upon the user's awareness and ability to exercise control over his or her exposure. The two categories defined are Occupational/Controlled

Exposure and General Population/Uncontrolled Exposure. These two categories are defined as follows:

- **Occupational/controlled Exposure:** In general, occupational/controlled exposure limits are applicable to situation in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure. Awareness of the potential for RF exposure in a workplcae or similar environment can be provided through specific training as part of a RF safety program. If appropriate, warning signs and labels can also be used to establish such awareness by providing prominent information on the risk of potential exposure and instructions on methods to minimize such exposure risks.

- **General Population/Uncontrolled Exposure:** The general population / uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

Since there are no warnings or training associated with this unit and it can be used by anyone, **Notebook PC** is evaluated to the General Population / Uncontrolled Exposure limits.

1.2 Radio Frequency Radiation Exposure Evaluation

According to 1.1310 of the FCC rules, the power density limit for General Population/Uncontrolled Exposure is 1mW/cm^2. As this is a mobile application the MPE shall be calculated at 20cm to show compliance with the power density limit. The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna

For this device, the calculation is as follows:

Because the EUT belongs to General Population/ Uncontrolled Exposure, the limit of power density is 1.0 mW/cm^2.

CDMA2000

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated RF Exposure at d=20cm (mW/cm^2)	Limit (mW/cm^2)
Cellular 850 1xRTT	0.7	1.17	24.27	267.30	0.063	0.57
PCS 1900 1xRTT	0.7	1.17	23.84	242.105	0.057	1.00
Cellular 850 1xEVDO	0.7	1.17	24.07	255.27	0.060	0.57
PCS 1900 1xEVDO	0.7	1.17	23.84	242.10	0.057	1.00

Mode	Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated RF Exposure at d=20cm (mW/cm^2)	Limit (mW/cm^2)
802.11g	2462	1.55	1.43	21.66	146.55	0.042	1.00
802.11a	5745	1.55	1.43	21.09	128.53	0.037	1.00
	5180	1.55	1.43	16.98	49.89	0.014	1.00
	5300	1.55	1.43	17.86	61.09	0.017	1.00
802.11n(g) BW20M	2462	1.55	1.43	23.94	247.74	0.070	1.00
802.11n(a) BW20M	5745	1.55	1.43	24.83	304.09	0.087	1.00
	5220	1.55	1.43	16.77	47.53	0.014	1.00
	5260	1.55	1.43	19.55	90.16	0.026	1.00
802.11n(a) BW40M	5755	1.55	1.43	21.89	154.53	0.044	1.00
	5190	1.55	1.43	16.82	48.08	0.014	1.00
	5230	1.55	1.43	16.84	48.31	0.014	1.00
	5270	1.55	1.43	16.60	45.71	0.013	1.00
	5310	1.55	1.43	16.81	47.97	0.014	1.00
Bluetooth	2441	-1.09	0.78	-0.21	0.95	0.0001	1.00

The CDMA2000 and WLAN and Bluetooth transmitters of this device can co-transmit. Therefore, the total MPE will be 0.063+0.087+0.0001=0.1501 mW/cm^2.

Based on the above calculation at 20cm the **Notebook PC** is below the Power Density limit of 1mW/cm^2.