



# RF Exposure Evaluation Declaration

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**FCC ID:** 2AB7TOX10

**APPLICANT:** Benton Technology Company Limited

**Application Type:** Certification

**Product:** Tablet PC

**Model No.:** BT-M106A, Ox10

**FCC Classification:** Digital Transmission System (DTS)

**Test Date:** April 08 ~ 13, 2014

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( Robin Wu )

Approved By : Marlin Chen  
( Marlin Chen )

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.



### Revision History

| Report No.   | Version | Description    | Issue Date |
|--------------|---------|----------------|------------|
| 1404RSU00802 | Rev. 01 | Initial report | 04-14-2014 |
|              |         |                |            |

## 1. RF Exposure Evaluation

### 1.1. Limits

#### SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and $\leq 50$ mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in Note 1 must be applied to determine SAR test exclusion.

| MHz  | 5   | 10  | 15  | 20  | 25  | mm   |
|------|-----|-----|-----|-----|-----|--|
| 150  | 39  | 77  | 116 | 155 | 194 | SAR Test<br>Exclusion<br>Threshold<br>(mW) |
| 300  | 27  | 55  | 82  | 110 | 137 |  |
| 450  | 22  | 45  | 67  | 89  | 112 |  |
| 835  | 16  | 33  | 49  | 66  | 82  |  |
| 900  | 16  | 32  | 47  | 63  | 79  |  |
| 1500 | 12  | 24  | 37  | 49  | 61  |  |
| 1900 | 11  | 22  | 33  | 44  | 54  |  |
| 2450 | 10  | 19  | 29  | 38  | 48  |  |
| 3600 | 8   | 16  | 24  | 32  | 40  |  |
| 5200 | 7   | 13  | 20  | 26  | 33  |  |
| 5400 | 6   | 13  | 19  | 26  | 32  |  |
| 5800 | 6   | 12  | 19  | 25  | 31  |  |
| MHz  | 30  | 35  | 40  | 45  | 50  |  |
| 150  | 232 | 271 | 310 | 349 | 387 | SAR Test<br>Exclusion<br>Threshold<br>(mW) |
| 300  | 164 | 192 | 219 | 246 | 274 |  |
| 450  | 134 | 157 | 179 | 201 | 224 |  |
| 835  | 98  | 115 | 131 | 148 | 164 |  |
| 900  | 95  | 111 | 126 | 142 | 158 |  |
| 1500 | 73  | 86  | 98  | 110 | 122 |  |
| 1900 | 65  | 76  | 87  | 98  | 109 |  |
| 2450 | 57  | 67  | 77  | 86  | 96  |  |
| 3600 | 47  | 55  | 63  | 71  | 79  |  |
| 5200 | 39  | 46  | 53  | 59  | 66  |  |
| 5400 | 39  | 45  | 52  | 58  | 65  |  |
| 5800 | 37  | 44  | 50  | 56  | 62  |  |

Note 1:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation

distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

## 1.2. Test Procedure

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

The temperature and related humidity: 25°C and 78% RH.

## 1.3. Test Result of RF Exposure Evaluation

|           |                        |
|-----------|------------------------|
| Product   | Tablet PC              |
| Test Item | RF Exposure Evaluation |

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.5dBi for 2.4GHz in logarithm scale.

### Output Average Power into Antenna:

| Test Mode        | Frequency Band (MHz) | Maximum output power to antenna (mW) | SAR Test Exclusion Threshold (mW) |
|------------------|----------------------|--------------------------------------|-----------------------------------|
| 802.11b/g/n-HT20 | 2412~2462            | 8.26                                 | 10                                |
| 802.11n-HT40     | 2422~2452            | 8.57                                 | 10                                |

Per FCC KDB 447498 D01v05r02, the SAR exclusion threshold for distances < 50mm is defined by the following equation:

$$\frac{\text{Max Power of Channel (mW)}}{\text{Test Separation Dist (mm)}} * \sqrt{\text{Frequency (GHz)}} \leq 3.0$$

Based on the maximum conducted power of Wi-Fi and the antenna to use separation distance, Wi-Fi SAR was not required;

$$[(8.57\text{mW}/5) * \sqrt{2.437}] = 2.68 < 3.0.$$

Note: When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

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