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Certificate No.: CB10307169

Maximum Permissible Exposure

| | |
|------------------------|--|
| Applicant's company | Motorola Solutions, Inc. |
| Applicant Address | One Motorola Plaza Holtsville, NY 11742 USA |
| FCC ID | UZ7AP7532I |
| Manufacturer's company | Wistron NeWeb Corporation |
| Manufacturer Address | 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C. |

| | |
|------------------|---|
| Product Name | Birch Internal (3x3 MIMO) |
| Brand Name | MOTOROLA |
| Model Name | AP-7532I |
| Ref. Standard(s) | 47 CFR FCC Part 2 Subpart J, section 2.1091 |
| EUT Freq. Range | 5250 ~ 5350MHz / 5470 ~ 5725MHz |
| Received Date | Apr. 15, 2014 |
| Final Test Date | Jul. 25, 2014 |
| Submission Type | Class II Change |

Sam Chen

SPORTON INTERNATIONAL INC.



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History of This Assessment Report

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|-------------|---------|-------------------------|---------------|
| FA441804-05 | Rev. 01 | Initial issue of report | Nov. 26, 2014 |
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1. TABLE FOR MULTIPLE LIST AND CLASS II CHANGE

1.1. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FA441804-01

Below is the table for the change of the product with respect to the original one.

| Description | Performance Checking |
|-----------------------|----------------------|
| Add Band 2 and Band 3 | All Item test |

2. MAXIMUM PERMISSIBLE EXPOSURE

2.1. Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm ²) | Averaging Time E ² , H ² or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|--|---|
| 0.3-3.0 | 614 | 1.63 | (100)* | 6 |
| 3.0-30 | 1842 / f | 4.89 / f | (900 / f)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | | | F/300 | 6 |
| 1500-100,000 | | | 5 | 6 |

(B) Limits for General Population / Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm ²) | Averaging Time E ² , H ² or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|--|---|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | F/1500 | 30 |
| 1500-100,000 | | | 1.0 | 30 |

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2. MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.25m, as well as the gain of the used antenna, the RF power density can be obtained.

2.3. Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

For 5GHz UNII Band 1, Band 4:

Antenna Type : PIFA Antenna

Conducted Power for IEEE 802.11n HT40 (3TX) : 25.82 dBm

| Directional Gain (dBi) | Antenna Gain (numeric) | The maximum combined Average Output Power | | Power Density (S) (mW/cm ²) | Limit of Power Density (S) (mW/cm ²) | Test Result |
|------------------------|------------------------|---|----------|---|--|-------------|
| | | (dBm) | (mW) | | | |
| 5.92 | 3.9084 | 25.8215 | 382.0773 | 0.190231 | 1 | Complies |

For 5GHz UNII Band 2~Band 3:

Antenna Type : PIFA Antenna

Conducted Power for IEEE 802.11ac VHT80 (3TX) : 19.25dBm

| Directional Gain (dBi) | Antenna Gain (numeric) | The maximum combined Average Output Power | | Power Density (S) (mW/cm ²) | Limit of Power Density (S) (mW/cm ²) | Test Result |
|------------------------|------------------------|---|---------|---|--|-------------|
| | | (dBm) | (mW) | | | |
| 10.69 | 11.7252 | 19.2460 | 84.0624 | 0.125561 | 1 | Complies |

Note: Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS})$

For 2.4GHz Band:

Antenna Type : PIFA Antenna

Conducted Power for IEEE 802.11g (3TX) : 25.53 dBm

| Directional Gain (dBi) | Antenna Gain (numeric) | The maximum combined Average Output Power | | Power Density (S) (mW/cm ²) | Limit of Power Density (S) (mW/cm ²) | Test Result |
|------------------------|------------------------|---|----------|---|--|-------------|
| | | (dBm) | (mW) | | | |
| 8.90 | 7.7646 | 25.5259 | 356.9341 | 0.353053 | 1 | Complies |

Note: Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS})$

CONCLUSION:

Both of the WLAN 2.4GHz Band and WLAN 5GHz Band can transmit simultaneously, the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is $0.353053 / 1 + 0.190231 / 1 = 0.543284$, which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.