

Application for FCC Certification  
On behalf of

Creatcomm Technology Inc.

Product Name: Intelligent wireless transmission equipment

Model No.: TB5E

FCC ID: 2AHYNTURBOBRIDGES

(MPE Calculation)

Prepared For : Creatcomm Technology Inc.  
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Report No. : ACI-F16124  
Date of Test : May. 23, 2016  
Date of Report : May. 25, 2016

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## TEST REPORT FOR FCC CERTIFICATE

Applicant : Creatcomm Technology Inc.  
EUT Description : Intelligent wireless transmission equipment  
Model No. : TB5E  
Power Supply : DC 24V (POE Power)  
Test Voltage : AC 120V/60Hz (to POE adapter)

Test Procedure Used:

*FCC Part 1 Subpart I and Part 2 Subpart J*  
*KDB 447498 D01 General RF Exposure Guidance v06*

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part2.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report also shows that the EUT (M/N: TB5E), which was tested on May. 23, 2016 is technically compliance with the FCC limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : May. 23, 2016 Date of Report : May. 25, 2016

Producer : Alan He  
ALAN HE / Assistant

Review : Sammy Chen  
SAMMY CHEN / Manager

 For and on behalf of  
Audix Technology (Shanghai) Co., Ltd.

Signatory : Byron Kwo  
Authorized Signature EMC BYRON KWO / Assistant General Manager

# 1 GENERAL INFORMATION

## 1.1 Description of Equipment Under Test

Description : Intelligent wireless transmission equipment

Type of EUT :  Production  Pre-product  Pro-type

Model Number : TB5E

Radio Tech : IEEE 802.11a/n HT20, HT40

Freq. Band : IEEE 802.11a: 5180MHz—5240MHz  
5745MHz—5825MHz  
IEEE802.11nHT20: 5180MHz—5240MHz  
5745MHz—5825MHz  
IEEE802.11nHT40: 5190MHz—5230MHz  
5755MHz—5795MHz

Modulation : OFDM

Antenna Gain : 15 dBi  
two outputs driving antennas that are cross-polarized, directional gain is the gain of an individual antenna

Applicant : Creatcomm Technology Inc.  
Suite 619, Building A, Modern Plaza, No.18 Weiye  
Road, Kunshan, JiangSu, China

Manufacturer : Same as Applicant

## 1.2 Description of Equipment Under Test

### 1.2.1 Notebook PC

Manufacturer : DELL

Model Number : P51F

Serial Number : GQRT062

Certificate : FCC DoC; CE/EMC; VCCI; C-Tick

### 1.3 Description of Test Facility

Site Description : Sept. 17, 1998 file on  
(Semi-Anechoic Chamber) Jan. 15, 2015 Renewed  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046, USA

Name of Firm : Audix Technology (Shanghai) Co., Ltd.

Site Location : 3F 34 Bldg 680 Guiping Rd.,  
Caohejing Hi-Tech Park,  
Shanghai 200233, China

FCC registration Number : 91789

Accredited by NVLAP, Lab Code : 200371-0

### 1.4 Measurement Uncertainty

Output Power Expanded Uncertainty :  $U = \pm 1.56 \text{ dB}$

## 2 SUMMARY OF STANDARDS AND RESULTS

### 2.1 Applicable Standard

FCC Part1 §1.1310

### 2.2 Specification Limits

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 <sup>2</sup> ) | Averaging Time  E <sup>2</sup> ,  H <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|---|---|
| 0.3-1.34              | 614                               | 1.63                              | (100)*                                  | 30  |
| 1.34-30               | 824/f                             | 2.19/f                            | (180/f2)*                               | 30  |
| 30-300                | 27.5                              | 0.073                             | 0.2                                     | 30  |
| 300-1500              | --                                | --                                | f/1500                                  | 30  |
| 1500-100,000          | --                                | --                                | 1.0                                     | 30  |

f = frequency in MHz

\*Plane-wave equivalent power density

NOTE: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The limit value 1.0mW/cm<sup>2</sup> is available for this EUT.

### 2.3 MPE Calculation Method

$$S = PG/(4 \pi R^2)$$

$$R = [PG/(4 \pi S)]^{0.5}$$

where: S = power density (in appropriate units, e.g. mW/ cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW)

(the measured power value see Report: F16053 Section 5.6)

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 (appropriate units, e.g., cm)

## 2.4 Calculated Result

### 2.4.1 Radio Frequency Radiation Exposure Evaluation

Separation distance R= 20cm.

| Mode              | Frequency (MHz) | Max Output Power (dBm) | Max Output Power (mW) | Antenna Gain |           | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|-------------------|-----------------|------------------------|-----------------------|--------------|-----------|-------------------------------------|-----------------------------|
|                   |                 |                        |                       | (dBi)        | (Numeric) |                                     |                             |
| IEEE 802.11a      | 5180            | 14.708                 | 29.567                | 15           | 31.62     | 0.186                               | 1.0                         |
|                   | 5200            | 14.707                 | 29.560                | 15           | 31.62     | 0.186                               | 1.0                         |
|                   | 5240            | 14.553                 | 28.530                | 15           | 31.62     | 0.179                               | 1.0                         |
|                   | 5745            | 9.159                  | 8.239                 | 15           | 31.62     | 0.052                               | 1.0                         |
|                   | 5785            | 7.673                  | 5.852                 | 15           | 31.62     | 0.037                               | 1.0                         |
|                   | 5825            | 8.744                  | 7.489                 | 15           | 31.62     | 0.047                               | 1.0                         |
| IEEE 802.11n HT20 | 5180            | 16.893                 | 48.899                | 15           | 31.62     | 0.308                               | 1.0                         |
|                   | 5200            | 16.823                 | 48.117                | 15           | 31.62     | 0.303                               | 1.0                         |
|                   | 5240            | 16.616                 | 45.878                | 15           | 31.62     | 0.289                               | 1.0                         |
|                   | 5745            | 11.966                 | 15.725                | 15           | 31.62     | 0.099                               | 1.0                         |
|                   | 5785            | 10.589                 | 11.452                | 15           | 31.62     | 0.072                               | 1.0                         |
|                   | 5825            | 11.643                 | 14.598                | 15           | 31.62     | 0.092                               | 1.0                         |
| IEEE 802.11n HT40 | 5190            | 17.171                 | 52.131                | 15           | 31.62     | 0.328                               | 1.0                         |
|                   | 5230            | 16.428                 | 43.934                | 15           | 31.62     | 0.276                               | 1.0                         |
|                   | 5755            | 10.090                 | 10.209                | 15           | 31.62     | 0.064                               | 1.0                         |
|                   | 5795            | 9.528                  | 8.970                 | 15           | 31.62     | 0.056                               | 1.0                         |