IEEE C95.1 2005
KDB 447498 D01 V06
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

Xerox TMS

Model: IVU-4000

Trade Name: xerox

Issued to

Advantech Co.Ltd.
No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.

Issued by

Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)
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service@ccsrf.com
Issued Date: July 4, 2016

Testing Laboratory
1309

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	July 4, 2016	Initial Issue	ALL	Doris Chu

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1. TEST RESULT CERTIFICATION

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

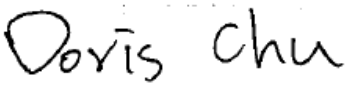
The test results of this report relate only to the tested sample EUT identified in this report.

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:

Miller Lee
Manager
Compliance Certification Services Inc.

Test by:



Doris Chu
Report coordinator
Compliance Certification Services Inc.

2. LIMIT

According to §15.247(i), 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 of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

3. EUT SPECIFICATION

<table>
<tr><td>EUT</td><td>Xerox TMS</td></tr>
<tr><td>Model</td><td>IVU-4000</td></tr>
<tr><td>Trade Name</td><td>xerox</td></tr>
<tr><td>Model Discrepancy</td><td>N/A</td></tr>
<tr><td>Frequency band (Operating)</td><td>☒ 802.11b/g/n HT20: 2412MHz ~ 2462MHz
802.11n HT40: 2422MHz ~ 2452MHz
802.11a/n HT20: 5180MHz ~ 5700MHz / 5745MHz ~ 5825MHz
802.11n HT40: 5190MHz ~ 5670MHz / 5755MHz ~ 5795MHz
☐ Others</td></tr>
<tr><td>Device category</td><td>☐ Portable (<20cm separation)
☒ Mobile (>20cm separation)
☐ Others</td></tr>
<tr><td>Exposure classification</td><td>☐ Occupational/Controlled exposure (S = 5mW/cm^2)
☒ General Population/Uncontrolled exposure (S=1mW/cm^2)</td></tr>
<tr><td>Antenna Specification</td><td>2.4GHz 1.50 dBi (Numeric gain: 1.41)
5GHz 2.00 dBi (Numeric gain: 1.58)
Type: MONOPOLE Antenna</td></tr>
<tr><td>Measurement Average output power</td><td>
<table>
<tr><th>System</th><th>Power</th><th></th></tr>
<tr><td>IEEE 802.11b Mode:</td><td>16.25 dBm</td><td>(42.170 mW)</td></tr>
<tr><td>IEEE 802.11g Mode:</td><td>11.31 dBm</td><td>(13.521 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>10.83 dBm</td><td>(12.106 mW)</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>9.18 dBm</td><td>(8.279 mW)</td></tr>
<tr><td>IEEE 802.11a Mode:</td><td>17.20 dBm</td><td>(52.481 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>17.18 dBm</td><td>(52.240 mW)</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>16.68 dBm</td><td>(46.559 mW)</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td>Power Target / Tolerance</td><td>
<table>
<tr><th>System</th><th>Target Power</th><th>Tolerance</th></tr>
<tr><td>IEEE 802.11b Mode:</td><td>16.0 dBm</td><td>± 2 dB</td></tr>
<tr><td>IEEE 802.11g Mode:</td><td>11.0 dBm</td><td>± 2 dB</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>10.0 dBm</td><td>± 2 dB</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>9.0 dBm</td><td>± 2 dB</td></tr>
<tr><td>IEEE 802.11a Mode:</td><td>17.0 dBm</td><td>± 2 dB</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>17.0 dBm</td><td>± 2 dB</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>15.0 dBm</td><td>± 2 dB</td></tr>
</table>
</td></tr>
<tr><td>Max tune up Power / Max time Average Power</td><td>
<table>
<tr><td>IEEE 802.11b Mode:</td><td>18.00 dBm</td><td>(63.096 mW)</td></tr>
<tr><td>IEEE 802.11g Mode:</td><td>13.00 dBm</td><td>(19.953 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>12.00 dBm</td><td>(15.849 mW)</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>11.00 dBm</td><td>(12.589 mW)</td></tr>
<tr><td>IEEE 802.11a Mode:</td><td>19.00 dBm</td><td>(79.433 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>19.00 dBm</td><td>(79.433 mW)</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>17.00 dBm</td><td>(50.119 mW)</td></tr>
</table>
</td></tr>
<tr><td>Evaluation applied</td><td>☒ MPE Evaluation*
☐ SAR Evaluation
☐ N/A</td></tr>
</table>

4. TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

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:

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

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$ ***Equation 1***

Where d = Distance in cm
P = Power in mW
G = Numeric antenna gain
S = Power density in mW / cm^2

5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using d = 20 cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
1	2412	63.096	1.41	20	0.0177	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
1	2412	19.953	1.41	20	0.0056	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
1	2412	15.849	1.41	20	0.0044	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
6	2437	12.589	1.41	20	0.0035	1

IEEE 802.11a mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
157	5785	79.433	1.58	20	0.0250	1

IEEE 802.11a HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
157	5785	79.433	1.58	20	0.0250	1

IEEE 802.11a HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
100	5500	50.119	1.58	20	0.0158	1