

**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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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.

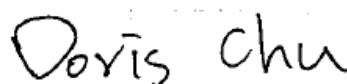
APPLICABLE STANDARDS	
STANDARD	TEST RESULT
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

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

EUT	Xerox TMS																										
Model	IVU-4000																										
Trade Name	xerox																										
Model Discrepancy	N/A																										
Frequency band (Operating)	☒ 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																										
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others																										
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm ²) ☒ General Population/Uncontrolled exposure (S=1mW/cm ²)																										
Antenna Specification	2.4GHz 5GHz Type: MONOPOLE Antenna 1.50 dBi (Numeric gain: 1.41) 2.00 dBi (Numeric gain: 1.58)																										
Measurement Average output power	<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>			System	Power		IEEE 802.11b Mode:	16.25 dBm	(42.170 mW)	IEEE 802.11g Mode:	11.31 dBm	(13.521 mW)	IEEE 802.11n HT 20 Mode:	10.83 dBm	(12.106 mW)	IEEE 802.11n HT 40 Mode:	9.18 dBm	(8.279 mW)	IEEE 802.11a Mode:	17.20 dBm	(52.481 mW)	IEEE 802.11n HT 20 Mode:	17.18 dBm	(52.240 mW)	IEEE 802.11n HT 40 Mode:	16.68 dBm	(46.559 mW)
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Power Target / Tolerance	<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>	System	Target Power	Tolerance	IEEE 802.11b Mode:	16.0 dBm	± 2 dB	IEEE 802.11g Mode:	11.0 dBm	± 2 dB	IEEE 802.11n HT 20 Mode:	10.0 dBm	± 2 dB	IEEE 802.11n HT 40 Mode:	9.0 dBm	± 2 dB	IEEE 802.11a Mode:	17.0 dBm	± 2 dB	IEEE 802.11n HT 20 Mode:	17.0 dBm	± 2 dB	IEEE 802.11n HT 40 Mode:	15.0 dBm	± 2 dB
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Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A																								

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:

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

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

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 / cm ²	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 / cm ²	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 / cm ²	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 / cm ²	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 / cm ²	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 / cm ²	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 / cm ²	Limit (mW/cm2)
100	5500	50.119	1.58	20	0.0158	1