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

ICG

Model: ICG-100-NA-R

Trade Name: Intwine connect

Issued to

Foxconn International Inc
NO 2 ZIYOU ST TUCHENG DISTRICT NEW TAIPEI 236.

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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Issued Date: June 6, 2017

Testing Laboratory
1309

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	June 6, 2017	Initial Issue	ALL	Angel Cheng

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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:

Sam Chuang
Manager
Compliance Certification Services Inc.

Test by:

Angel Cheng
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	ICG
Model	ICG-100-NA-R
Trade Name	Intwine connect
Frequency band (Operating)	☒ WCDMA / HSDPA / HSUPA Band II: 1852.4MHz ~ 1907.6MHz ☒ WCDMA / HSDPA / HSUPA Band V: 826.4MHz ~ 846.6MHz ☒ WCDMA / HSDPA / HSUPA Band IV: 1712.4MHz ~ 1752.6MHz ☒ LTE Band 2: 1850MHz ~ 1910MHz ☒ LTE Band 4: 1710MHz ~ 1755MHz ☒ LTE Band 5: 824MHz ~ 849MHz ☒ LTE Band 13: 777 MHz ~ 787 MHz ☒ LTE Band 17: 704 MHz ~ 716 MHz ☒ 802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz ☒ Bluetooth: 2402MHz ~ 2480MHz ☒ Zigbee: 2405MHz ~ 2480MHz ☐ 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	For WCDMA and LTE DIPOLE Antenna 1. Taoglas 3.00 dBi (Numeric gain: 2.00) Worst 2. FIT 1.59 dBi (Numeric gain: 1.44) For 802.11 b/g/n ,Bluetooth an Zigbee DIPOLE Antenna 1. FIT 5.00 dBi (Numeric gain: 3.16) 2. Luxshare 5.00 dBi (Numeric gain: 3.16)

<table>
<tr>
<td>Max tune up Power Power</td>
<td>
<table>
<tr><th>System</th><th colspan="2">Max Tune up Power</th></tr>
<tr><td>WCDMA Band II:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr>
<tr><td>WCDMA Band IV:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr>
<tr><td>WCDMA Band V:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr>
<tr><td>LTE Band 2:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr>
<tr><td>LTE Band 4:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr>
<tr><td>LTE Band 5:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr>
<tr><td>LTE Band 13:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr>
<tr><td>LTE Band 17:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr>
<tr><td>Bluetooth:</td><td>10.00 dBm</td><td>(10.000 mW)</td></tr>
<tr><td>IEEE 802.11b Mode:</td><td>15.00 dBm</td><td>(31.623 mW)</td></tr>
<tr><td>IEEE 802.11g Mode:</td><td>10.00 dBm</td><td>(10.000 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode</td><td>10.00 dBm</td><td>(10.000 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>ZigBee:</td><td>17.00 dBm</td><td>(50.119 mW)</td></tr>
</table>
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<tr>
<td>Evaluation applied</td>
<td>☒ MPE Evaluation*
☐ SAR Evaluation
☐ N/A</td>
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</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

WCDMA Band II mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm²)
9262	1852.4	251.189	2.00	20	0.1000	1.000

WCDMA Band IV mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm²)
1312	1712.4	251.189	2.00	20	0.1000	1.000

WCDMA Band V mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm²)
4233	846.6	251.189	2.00	20	0.1000	0.564

LTE Band 2:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm²)
18900	1880	251.189	2.00	20	0.1000	1.000

LTE Band 4:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm²)
20050	1720	251.189	2.00	20	0.1000	1.000

LTE Band 5:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm²)
20600	844	251.189	2.00	20	0.1000	0.563

LTE Band 13:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm²)
23230	782	251.189	2.00	20	0.1000	0.521

LTE Band 17:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm²)
23780	709	251.189	2.00	20	0.1000	0.473

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
0	2402	10.000	3.16	20	0.0063	1

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
1	2412	31.623	3.16	20	0.0199	1

ZigBee:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
0	2405	50.119	3.16	20	0.0315	1

6. SIMULTANEOUS TRANSMISSION SAR ANALYSIS

There are the WWAN, WIFI and ZigBee can transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

The worst-case situation is 0.1000 / 0.473 + 0.0199 / 1 + 0.0315 / 1 = 0.2628, which is less than “1”.