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

WiFi+Bluetooth 4.0(HS) System on Module

Model: PICO-IMX6

Trade Name: TechNexion

Issued to

TECHNEXION LTD.
16f-5, No.736, Zhongzheng Road, Zhonghe Dist., New Taipei City, 23511 Taiwan ROC

Issued by

Compliance Certification Services Inc.
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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	December 21, 2017	Initial Issue	ALL	May Lin

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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.

Tested by:

May Lin
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	WiFi+Bluetooth 4.0(HS) System on Module
Model	PICO-IMX6
Trade Name	TechNexion
Frequency band (Operating)	☒ Bluetooth 2.1 + EDR / 4.0: 2402 ~ 2480MHz 802.11b/g/n HT20: 2412MHz ~ 2462MHz ☐ 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	Bluetooth 3.50 dBi (Numeric gain: 2.24) WIFI 2.4G 3.50 dBi (Numeric gain: 2.24) Type: Dipole Antenna
Max tune up Power Power	<table><tr><td>Bluetooth</td><td>9.50dBm</td><td>(8.913mW)</td></tr><tr><td></td><td></td><td></td></tr><tr><td>WIFI</td><td></td><td></td></tr><tr><td>IEEE 802.11b mode</td><td>16.00dBm</td><td>(39.811mW)</td></tr><tr><td>IEEE 802.11g mode</td><td>15.50dBm</td><td>(35.481mW)</td></tr><tr><td>802.11n HT20 mode</td><td>14.50dBm</td><td>(28.184mW)</td></tr></table>
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

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4. TEST RESULTS

No non-compliance noted.

<u>Calculation</u>

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

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 (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

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

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

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm^2)
79	2480	8.913	0.87	20	0.0015	1.000

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm^2)
11	2462	39.811	0.87	20	0.0069	1.000

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm^2)
11	2462	35.481	0.87	20	0.0061	1.000

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm^2)
11	2462	28.184	0.87	20	0.0049	1.000