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

Bluetooth module

Model: CEX01BT

Trade Name: COMPAL

Issued to
Compal Electronics Inc
No.581, Ruiguang Rd., Neihu District, Taipei,, 11492, Taiwan

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
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TAF
Testing Laboratory
1309

Revision History

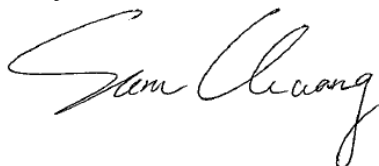| Rev.		Issue Date		Revisions	Effect Page	Revised By
00		July 21, 2017		Initial Issue	ALL	Vicki Huang
01		August 1, 2017		1. Modify section 5.	P.8	Angel Cheng

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1. TEST RESULT CERTIFICATION

We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

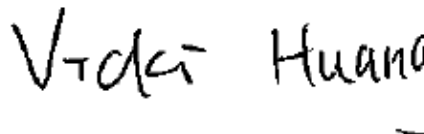| APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:

Tested by:

Sam Chuang
Manager
Compliance Certification Services Inc.

Vicki Huang
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

Product	Bluetooth module
Model	CEX01BT
Brand name	COMPAL
Model Discrepancy	N/A
Frequency band (Operating)	☒ Bluetooth 4.2: 2402 MHz ~ 2480 MHz ☐ 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:** Chip Antenna / Gain: -4.42dBi BT: Antenna Gain : -4.42 dBi (Numeric gain: 0.36) Worst
Maximum Average output power	Bluetooth Mode : -0.41 dBm (0.910 mW)
Maximum Tune up Power	Bluetooth Mode : 2.00 dBm (1.585 mW)
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

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4. TEST RESULTS

No non-compliance noted.

__Calculation__

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:

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

Changing to units of mW and cm, using:

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

d (cm) = d(m) / 100

Yields

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

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 / cm^2

Bluetooth mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
0	2402	1.585	0.36	20	0.0001	1