



Report No.: T170814N05-MF
Page 1 of 6 Rev. 00
FCC ID: RC6-M2-TBT

IEEE C95.1
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

RF EXPOSURE REPORT

For

Bluetooth Module

Model: M2-TBT

Trade Name: Amigo

Issued to

Amigo Technology Inc.
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Issued By

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	September 22, 2017	Initial Issue	ALL	Sunny Chang



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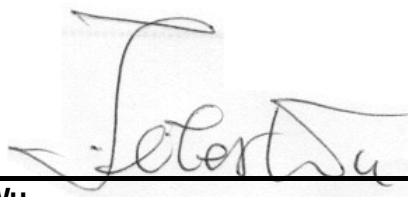
1. TEST RESULT CERTIFICATION

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.

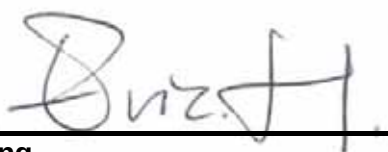
APPLICABLE STANDARDS	
STANDARD	TEST RESULT
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:



Jeter Wu
Assistant Manager

Reviewed by:



Eric Huang
Section Manager

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	Bluetooth Module		
Model	M2-TBT		
Brand	Amigo		
RF Module	TEXAS INSTRUMENTS (TI)	Model	CC2640
Frequency band (Operating)	☐ 802.11b/g/n HT20: 2.412GHz ~ 2.462GHz 802.11n HT40: 2.422GHz ~ 2.452GHz 802.11a/n HT20: 5.180GHz ~ 5.240GHz / 5.745 ~ 5.825GHz 802.11n HT40: 5.190GHz ~ 5.230GHz / 5.755~ 5.795GHz 802.11ac VHT80: 5.210GHz / 5.775GHz ☒ Others		
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others		
Exposure classification	☐ Occupational/Controlled exposure ($S = 5\text{mW}/\text{cm}^2$) ☒ General Population/Uncontrolled exposure ($S=1\text{mW}/\text{cm}^2$)		
Antenna Specification	PIFA Antenna / Gain: 3.88 dBi (Numeric gain: 2.44) worst		
Maximum Average output power	Bluetooth 4.0: 0.250 dBm (1.059 mW)		
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:

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

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

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

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 4.0 mode:

Ch	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)	Result
High	2480	1.059	2.44	20	0.0005	1	Pass