

**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**

**Location Beacon / Tag**

**Model: ARBT0033**

**Trade Name:**  
**aruba a Hewlett Packard Enterprise company**

*Issued to*

**Hewlett Packard Enterprise Company**  
**3333 Scott Blvd Santa Clara California United States**

*Issued by*

**Compliance Certification Services Inc.**  
**No.11, Wugong 6th Rd., Wugu Dist.,**  
**New Taipei City, Taiwan. (R.O.C.)**  
**Issue Date: June 12, 2020**

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
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Rev.: 01

## Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	March 03, 2020	Initial Issue	ALL	May Lin
01	June 12, 2020	See the following note Rev.(01)	P.1	Allison Chen

### **Rev.(01)**

1. Remove TAF logo from page. 1



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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
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
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:

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Kevin Tsai  
Deputy Manager  
Compliance Certification Services Inc.



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## 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

<b>EUT</b>	Location Beacon / Tag							
<b>Model</b>	ARBT0033							
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> Bluetooth: 2402MHz ~ 2480MHz <input type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462 MHz 802.11n HT40: 2422MHz ~ 2452MHz 802.11a/n HT20: 5180MHz ~ 5240MHz / 5260MHz ~ 5320MHz / 5500MHz ~ 5700MHz / 5745MHz ~ 5825MHz 802.11n HT40: 5190MHz ~ 5230MHz / 5270MHz ~ 5310MHz / 5510MHz ~ 5670MHz / 5755MHz ~ 5795MHz 802.11ac VHT80: 5210MHz / 5290MHz / 5530MHz / 5775MHz <input type="checkbox"/> Others							
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others							
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )							
<b>Antenna Specification</b>	Bluetooth: Antenna Gain : 3.80 dBi (Numeric gain 2.40)							
<b>Maximum Average output power</b>	<table border="1"> <tr> <td>Bluetooth 4.0:</td> <td>-5.09 dBm</td> <td>(0.310 mW)</td> </tr> <tr> <td>Bluetooth 5.0:</td> <td>-2.34 dBm</td> <td>(0.583 mW)</td> </tr> </table>		Bluetooth 4.0:	-5.09 dBm	(0.310 mW)	Bluetooth 5.0:	-2.34 dBm	(0.583 mW)
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Bluetooth 5.0:	-2.34 dBm	(0.583 mW)						
<b>Maximum Tune up Power</b>	<table border="1"> <tr> <td>Bluetooth 4.0:</td> <td>-4.00 dBm</td> <td>(0.398 mW)</td> </tr> <tr> <td>Bluetooth 5.0:</td> <td>-0.30 dBm</td> <td>(0.933 mW)</td> </tr> </table>		Bluetooth 4.0:	-4.00 dBm	(0.398 mW)	Bluetooth 5.0:	-0.30 dBm	(0.933 mW)
Bluetooth 4.0:	-4.00 dBm	(0.398 mW)						
Bluetooth 5.0:	-0.30 dBm	(0.933 mW)						
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A							

## 4. TEST RESULTS

**No non-compliance noted.**

### Calculation

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

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 / cm<sup>2</sup>

## 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<sup>2</sup>

### Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
0	2402	0.933	2.4	20	0.0004	1

--End of Report--