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RF Radiation Exposure Evaluation

In accordance with:

FCC KDB 447498 D01 v06

Automatic Technology Australia Pty Ltd

PEBTX01-1.02

Universal PE (Photo Electric) Beam Kit – PE Beam
Transmitter

FCC ID: X4K-UWPEB01

REPORT: E2512-1918-10

DATE: January, 2026



RF Radiation Exposure Evaluation Report

EMC Bayswater Test Report: E2512-1918-10
Issue Date: January, 2026

Product: Universal PE (Photo Electric) Beam Kit – PE Beam Transmitter
Model No: PEBTX01-1.02
Serial No: Not stated
FCC ID: X4K-UWPEB01
Variant: PEBRX01-1.02

The above listed model (PEBTX01-1.02) was tested by EMC Bayswater Pty Ltd as a representative sample and the results and conclusions within this report do not necessarily reflect compliance for other variants. Please refer to section 5 of this report for variant information.

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Standard(s): FCC KDB 447498 D01 v06
RF EXPOSURE PROCEDURES AND EQUIPMENT AUTHORIZATION POLICIES
FOR MOBILE AND PORTABLE DEVICES
CFR47 FCC Part 2, Subpart J, 2.1091
Radiofrequency radiation exposure evaluation: mobile devices.
CFR47 FCC Part 2, Subpart J, 2.1093
Radiofrequency radiation exposure evaluation: portable devices.

Results Summary: RF Radiation exposure requirements **Complied**

Test Date(s): 17th of December, 2025

Test House (Issued By): EMC Bayswater Pty Ltd
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FCC Accredited Test Firm Registration number: 527798
FCC Accredited Test Firm Designation number: AU0004

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The Automatic Technology Australia Pty Ltd, PEBTX01-1.02, Universal PE (Photo Electric) Beam Kit – PE Beam Transmitter, measured EIRP is below the SAR exception threshold (5mm distance) and the calculated power density level at a distance of 20cm are below the maximum levels allowed by regulations therefore complied with the requirements of CFR47 FCC Part 2, Subpart J, 2.1093.

This is to certify that the necessary evaluations were made by EMC Bayswater Pty Ltd, and that the Automatic Technology Australia Pty Ltd, PEBTX01-1.02, Universal PE (Photo Electric) Beam Kit – PE Beam Transmitter, has been tested in accordance with requirements contained in the appropriate commission regulations.

Prepared by:

Approved by:



Adnan Zaman
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Neville Liyanapatabendige
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27/01/2026 10:57

Date

RF Radiation Exposure Evaluation *for* Automatic Technology Australia Pty Ltd

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1. Introduction

RF Radiation Exposure evaluation was performed on an Automatic Technology Australia Pty Ltd, PEBTX01-1.02, Universal PE (Photo Electric) Beam Kit – PE Beam Transmitter in accordance with FCC KDB 447498 D01 v06.

2. Test Report Revision History

None

3. Report Information

EMC Bayswater Pty Ltd reports apply only to the specific samples tested under the stated test conditions. All samples tested were in good operating condition throughout the entire test program unless otherwise stated. EMC Bayswater Pty Ltd does not in any way guarantee the later performance of the product/equipment. It is the manufacturer's responsibility to ensure that additional production units of the tested model are manufactured with identical electrical and mechanical components. EMC Bayswater Pty Ltd shall have no liability for any deductions, inference or generalisations drawn by the clients or others from EMC Bayswater Pty Ltd issued reports. This report shall not be used to claim, constitute or imply product endorsement by EMC Bayswater Pty Ltd. This report shall not be reproduced except in full, without the written approval of EMC Bayswater Pty Ltd. This document may be altered or revised by EMC Bayswater Pty Ltd personnel only, and shall be noted in the revision section of the document. Any alteration of this document not carried out by EMC Bayswater Pty Ltd will nullify the document.

4. Product Details

4.1. Product Sample Details

The device, as supplied by the client, is described as follows:

Product:	Universal PE (Photo Electric) Beam Kit – PE Beam Transmitter	
Model No:	PEBTX01-1.02	
Variant:	PEBRX01-1.02*	
	<i>*The customer (Automatic Technology Australia Pty Ltd) declared testing of one model as a worst case representative sample and declared that to be the "PEBTX01-1.02. Please note other than the unit(s) listed as a) "Product" and b) "Model", no other products/models or variant(s) were tested.</i>	
Serial No:	Not stated	
Firmware:	Not stated	
Power Specifications:	2 Batteries 1.5V AA-Size	
Dimensions:	95x65x55 mm (Length x Width x Height)	
Weight:	250g	
EUT Type:	Tested as table-top	
Transmitter:	Description:	PE Beam Transmitter BLE
	Type:	Bluetooth Low Energy - N52832
	Manufacturer:	Nordic Semiconductor
	Max Transmit Power:	-2.4 dBm (Measured max e.i.r.p)
	Frequency of Operation:	Bluetooth LE 2402-2480MHz
	Antenna Details:	PCB antenna Antenna Gain: +0.5dBi

(Customer supplied product information)

4.2. Product description

The device has been described by the customer as follows:

"Detection of any objects in the garage doorway. Works with garage door or gate operators B&D and Automatic Technology". The EUT is the PE Beam Transmitter of the Universal PE (Photo Electric) Beam Kit.

(Customer supplied product description information)

5. SAR and RF Exposure exception evaluation

5.1. SAR exception evaluation

As per Appendix A of KDB 447498 D01 General RF Exposure Guidance v06

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	<i>SAR Test Exclusion Threshold (mW)</i>
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

SAR test exclusion threshold for 2402MHz transmitter is 10.0mW for 5mm distance

SAR test exclusion threshold for 2440MHz transmitter is 10.0mW for 5mm distance

SAR test exclusion threshold for 2480MHz transmitter is 9.9mW for 5mm distance

- The measured maximum EIRP at 2402MHz is 0.57mW (Worst-case, Without Duty Cycle correction factor).
- The measured maximum EIRP at 2440MHz is 0.4mW (Worst-case, Without Duty Cycle correction factor).
- The measured maximum EIRP at 2480MHz is 0.55mW (Worst-case, Without Duty Cycle correction factor).

The measurement uncertainty was calculated at ± 1.4 dB. The reported uncertainty is an expanded uncertainty calculated using a coverage factor of approximately $k=2$ which gives a level of confidence of approximately 95%.

The measured EIRP is below the SAR exception threshold for a 5mm distance.

5.2. RF Exposure Evaluation (MPE)

As per section 1.1310 of CFR 47 following Maximum Permissible Exposure (MPE) limits are applicable.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields for 2402 to 2480MHz as per Table 1 of Section 15.1310 is 1 mW/cm² (General Population/Un-controlled).

Prediction Worst case:

Using equation

$$S = PG / 4\pi R^2$$

where: S = Power density

P = Power input to the antenna

G = Antenna gain

R = Distance to the center of radiation of the antenna

Band	Maximum Conducted Power @ Antenna (dBm)*	Antenna Gain (dBi)	Maximum EIRP (dBm)	Maximum EIRP (mW)	Distance (cm)	Calculated Power Density at 20cm (mW/cm ²)	Power Density Limit** (mW/cm ²)
2.4GHz BLE	-2.9	+0.5	-2.4	0.57	20	0.00011	1

*Worst-case, Without Duty Cycle correction factor

** MPE limit for General Population/Un-controlled exposure

Table 1: Results for MPE Evaluation

6. Conclusion

The measured EIRP is below the SAR exception threshold (20mm distance) and the calculated power density level at a distance of 20cm are below the maximum levels allowed by regulations.