

Radiation Hazard Assessment

Date	2 nd May 2024
FCC ID	UAUTS50V2
Brand Name	Protégé
Model Number	PRT-TS50V2
Product	Touch Screen Thermostat Controller
Manufacturer	Integrated Control Technology Ltd. (ICT)
Country of Origin	New Zealand
Serial Number	Sample not serialised

Product Description:

The device that was tested is a Touch Screen Thermostat Controller which would typically be used to control the temperature and operations of an air conditioning system.

The device also contains a Bluetooth device which can provide set up and control of the system.

The product is powered using a representative power supply at 12.0 Vdc.

FCC part 15 testing as detailed in EMC Technologies NZ Ltd test report number 240209.1 dated 16th April 2024 shows the following:

2.4 GHz Bluetooth transmitter with a field strength of 94.5 dBuV/m (Peak) at a test distance of 3 metres.

This equates to a radiated power of 9.7 dBm which is the same as 9.4 mW

The transmitter complies with the field strength limits contained with FCC Part 15 sections 15.249.

As per FCC KDB 447498 D04 and Section 2.1091 radio frequency transmitters are required to be operated in a manner that ensures the public is not exposed to high levels of RF energy.

As the 2.4 GHz transmitter has a radiated powers greater than 1 mW it will not be automatically exempt.

Calculations have been carried out to determine whether it will be SAR exempt.

As per FCC KDB 447498 D01 General RF Exposure Guidance 06 the following calculation has been made:

$$[\text{Power (mW)} / \text{Distance (mm)}] * \sqrt{\text{Frequency (GHz)}}$$

Where ≤ 3 for 1-g head SAR or ≤ 7.5 for 10-g extremity SAR

Therefore

$$[9.4 \text{ mW} / 5 \text{ mm}] * \sqrt{2.480} = 2.96$$

This device therefore exempt from SAR testing as it is less than 3 for 1-g head SAR and less than 7.5 for 10-g extremity SAR when a 5 mm safe distance is applied

Result: Complies