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Inquiry Details on 03/12/2024:

First category: Equipment Compliance Review
Second category: Wireless Power Transfe
Third category:
Subject: Seeking guidance for portable wireless chargers
Inquiry: Dear officer,

Nice day.

We have a wireless charger which is subjected to part 15. The product can work as a portable, we have been tested according to the KDB 680106 D01 Wireless Power Transfer v04 standard,

The device is power Bank;

The device operate in the frequency range from 115-205kHz

The maximum output power of the primary coil is 15W.

Client device is placed directly in contact with the transmitter.

The product can work as a portable,

Wireless charging coil diameter distance is 41.5mm;

Here's how we measure it?

Mobile Mode :

The H-field intensity was measured at 15cm around EUT and 20cm above the top surface of EUT

Portable Mode :

Since the diameter of our probe is 3.3cm, we can not directly measure 0cm, so we measured the field intensity at a distance of 2-20CM? in 2 cm maximum increment measured from the edge of the device?In the end?Using Biot-Savart Law, the value of 0cm can be estimated through the test results of 2cm?

The attachment is <MPE test Report>< External Photos>< Internal Photos>< User Manual>< Antenna Spec>

Please help me check whether MPE Report can accept?

Waiting for your information.

Thanks for your help in advance.

Best Regards!

FCC Response on 03/27/2024:

Dear Inquirer,

it looks like you are going in the right direction, but we still have a few questions.

Is your product going to be authorized under Part 15? If so, the general procedures as for any product under Part 15 needs to be followed (regardless of whether it is a WPT or not). In this case, since the device operating frequency is below 4 MHz, the RF exposure compliance can be demonstrated via MPE testing, as discussed in the last TCB workshop as well as in KDB 680106, Section 3.2.

If it is a Part 18 device, then the full KDB 680106 guidance does apply. The battery status is here reported as 99%: does that mean 99% charged or 99% discharged? We need to see testing when the battery is almost discharged, or the worst case scenario that corresponds to the largest current.

In regard to the check for the estimated value via Biot-Savart law, the validation needs to be done according to the procedure is outlined in KDB 680106 Section 3.3. This just requires showing that the model used to estimate the field provides data within 30% accuracy for at least the two closest points to where the estimates were made.

For instance, if the probe radius is R and the probe tip is in contact with the coil, the probe center is R cm from the coil surface. The probe then is measuring the field correctly at R cm from the surface, and only estimating the field at the surface. Let's assume that R=1 cm.

Then the field at 0 cm can only be estimated, but the field at 1 cm is measured exactly (at the center of the probe). Then one moves the probe at 2 cm. The field at 1 cm can be estimated, and the result compared with the actual measurement at 1 cm.

The difference needs to be no less than 30%. Then one shall measure one more point. Since the field at 2 cm was also measured exactly in the center of the probe, the probe can be moved to 3 cm; the field at 2 cm (on the probe tip) can then also be estimated; the agreement, again, shall be within 30%. This completes the validation.

If your probe radius is different from 1 cm, then the procedure in the example needs to be corrected accordingly.
Best regards, OET Staff

---Reply from Customer on 03/29/2024---

Dear officer,

Nice day.

1. The product will apply for authorization in accordance with PART15
2. The battery status is here reported as 99%? This is 99% discharge? The writing of the report has been updated?
3. About verifying Biot-Savart LA Westimates, At the basis of the comparison between the 2cm test value and the 2cm estimate value; Added comparison of 4cm test values and 4cm estimates; The difference values both meet the 30% limit? The estimation model is verified?

Finally, the test data of 2cm is used to estimate the result of 0cm

Please help me to check again whether the MPE Report is acceptable.

Waiting for your information.

Thanks for your help in advance.

Best Regards!

---Reply from Customer on 03/29/2024---

Dear officer,

Nice day.

1. The product will apply for authorization in accordance with PART 15
2. The battery status is here reported as 99%? This is 99% discharge? The writing of the report has been updated?
3. About verifying Biot-Savart LA West estimates, At the basis of the comparison between the 2cm test value and the 2cm estimate value; Added comparison of 4cm test values and 4cm estimates; The difference values both meet the 30% limit? The estimation model is verified?

Finally, the test data of 2cm is used to estimate the result of 0cm

Please help me to check again whether the MPE Report is acceptable.

Waiting for your information.

Thanks for your help in advance.

Best Regards!

FCC Response on 03/29/2024:

Dear Inquirer, the information provided in this ECR for this particular WPT device design is acceptable for the purpose of the ECR-WPT. You may provide a copy of this Inquiry correspondence to the TCB in support of certification processing.

Please consider that since Part 15 equipment certification is being pursued, all the applicable Part 15 requirements for certification need to be met.

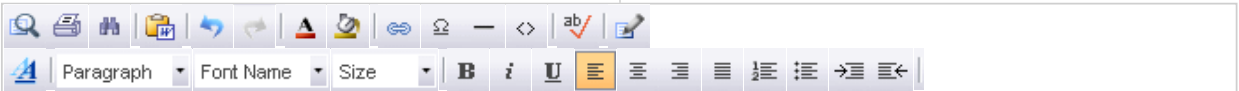
Best regards, OET Staff

Attachment List:

- [Antenna Spec.](#)
- [BCTC2401501681-2E EMF Report](#)
- [BCTC2401501681-2E EMF Report_Rev1](#)
- [External Photos](#)
- [Internal Photos](#)
- [User Manual](#)

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