

## Yang, Viola-xx (Shenzhen)

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**From:** oetech@fcc.gov  
**Sent:** 2018年8月23日星期四 21:56  
**To:** Geng, Peter (Shenzhen)  
**Subject:** Response to Inquiry to FCC (Tracking Number 953468)

### **Inquiry on 07/31/2018 :**

#### **Inquiry:**

Dear Sir,

I got a Qi wireless charger to apply FCC part 18 under certificate.

Please find the specification of the device as following:

Max output power: 5W

number of turns:10

frequency of operation: 127.24-172.28kHz

The wireless charger contains a built-in rechargeable battery. It will not be considered as a mobile device per 2.1091. So it does not comply with the item b) of sub clause 5 in KDB 680106 App v03. The end user can touch the wireless charger during the normal operation. We have completed the tests with a distance of 4cm between the edge of the wireless charger and the center of the test probe. The test probe will be mostly close to the wireless charger during the tests but without touching. The tests report has submitted for reference. Please help to check if it is acceptable. Thank you very much and looking forward to your reply.

### **FCC response on 08/02/2018**

Thank you for your inequity.

Per FCC KDB Pub 680106 D01 RF Exposure Wireless Charging App v03, section 3.d, in addition to the test result, we would like to see combination of analytical analysis, field strength, radiated and conducted power measurements, in conjunction with some limited numerical modeling to assess compliance.

Please refer to FCC KDB Publication 865664 D02 RF Exposure Reporting v01r02 for what should be included in numerical SAR simulation reports

---Reply from Customer on 08/07/2018---

Dear Sir/Madam,

SAR test procedure for below 100MHz is not established per KDB 447498 D01. The wireless charger is mainly used to charge to mobile phone. I have conducted all RF exposure tests using mobile phone and the test result is passed. As we known that field strength tests are usually used to estimate a device which operated below 1MHz. I have conducted the tests and recorded the field strenght in the test report. I think it also can meet the requirement about the assess compliance in conjunction with some limited numerical modeling in section 3.d in KDB 680106 d01 APP 03. Am I right?

---Reply from Customer on 08/12/2018---

Dear Sir/Madam,

Sorry to bother you. It is so urgent. May I have your comment? Thank you.

**FCC response on 08/13/2018**

Thank you for your response.

Please address the below items:

1. As we clearly tried to show in the last response, please provide numerical modeling in addition to field strength, radiated and conducted power measurements.
2. Your test conducted at 4cm. Any reason for conducting the test this particular distance?
3. Please conduct the measurement as close as possible until the test fails. When the test fails, back off by 1cm incremental until it passes. Then conduct the test and provide the test result at that distance, which is the closest distance where DUT is compliant.

---Reply from Customer on 08/13/2018---

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**FCC response on 08/13/2018**

Thank you for your response.

Please address the below items:

1. As we clearly tried to show in the last response, please provide numerical modeling in addition to field strength, radiated and conducted power measurements.
2. Your test conducted at 4cm. Any reason for conducting the test this particular distance?
3. Please conduct the measurement as close as possible until the test fails. When the test fails, back off by 1cm incremental until it passes. Then conduct the test and provide the test result at that distance, which is the closest distance where DUT is compliant.
4. Are you planning the DUT to be certified or approval through SDoC?

---Reply from Customer on 08/16/2018---

Dear Sir/Madam,

1. Per clause 3 item c), E and H field strength measurements or numerical modeling may be used to demonstrate compliance. So E and H field strength will can demonstrate compliance. Am I right?

2. RF exposure tests have been conducted in a mass of items in the pass year. We can get a conclusion that it is the worst status when the test probe and the wireless charger will close enough but without touching. This assumption is applicable for different kind of wireless charger. So I made the tests conducted in 4cm only. It means the closest distance between the test probe and the wireless charger.

3. Thie device always pass the tests even we made the tests in a closest distance.

4. I am planning the DUT to be certified.

**FCC response on 08/17/2018**

Thank you for your inquiry.

1. Please provide with numerical modeling.
2. Have you tried at less than 4cm? What is the closest distance you have tested at?

---Reply from Customer on 08/19/2018---

Dear Sir/Madam,

1. I am not sure what it exactly is about numerical modeling since I am always complete the RF exposure with a E-field and H-field formatting. Can you help to provide me more details about numerical modeling?(such as: test equipment, test method and test result format). Or it is so appreciated if you can provide me an optional method to choose to close the project.

2. The semidiameter of the spherical test probe is about 4cm. So the closest distance between the center of the test probe and the edge of the wireless device is 4cm.

**FCC response on 08/22/2018**

For your information, numerical analysis is not something you would measure, rather you would need to compare with a known calculated or measured result of similar type of device to DUT, so its measured or calculated exposure result or electrical characteristic of the DUT is similar or less than the known device.

However, for DUT, please provide the actual test setup photo? Also, please provide the FCC ID.

---Reply from Customer on 08/23/2018---

Dear Sir/Madam,

Thanks for your explanation.

I compared with a measured result of a similar type of device. The both test result are similar.

FCC ID has added into the report.

RF exposure setup has updated.

Please help to check any other comment? Thanks.

**FCC response on 08/23/2018**

Thank you for your response.

For your future reference, numerical analysis needs to be explained in detail which may include graphs, formulas, calculations, electrical and material characteristics, etc..

For the inquiry in hand, you may proceed.

**Attachment Details:**

[RF exposure report](#)

[RF exposure setup](#)

[updated RF exposure report](#)

Do not reply to this message. Please select the [Reply to an Inquiry Response](#) link from the OET Inquiry System to add any additional information pertaining to this inquiry.