

Reply to an OET Inquiry Response

Currently Displaying Inquiry Tracking Number: **553327**

Contact

Information:

Customer First Name: wei
Customer Last Name: xiaomei
Telephone Number: 86-0755-23118282
Extension: 649
E-mail Address: Janet.wei@ccis-cb.com

Address

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Line 1:
Line 2:
P.O. Box:
City:
State:
Zip Code:
Country:

Inquiry Details on 06/21/2016:

First
category: RF Exposure *

Second
category: SAR (RF Exposure)

Third
category:

Subject: Smart Watch Test Position inquiry

Inquiry: Dear Sir/Madam

We have a SMART WATCH, it cannot positioned in direct contact against a flat phantom with its back side. Now we need to perform the SAR test on it, Please kindly tell us the test procedure in attached document if right. Thank you very much and best regards!

---Reply from Customer on 06/23/2016---

Dear Sir/Madam

If the test procedure in attached document can use for this SMART WATCH? We had tested a smart watch like this, and this test procedure is refer to its. You can check the Tracking Number: 311234 ,
E-mail:Janet.wei@ccis-cb.com .

Can we use this test method for this SMART WATCH(V01)?

Please give us some guidance, if it is convenient, Please reply as soon as possible.

Thank you very much and best regards!

---Reply from Customer on 06/24/2016---

Dear Sir/Madam

We are looking forward to your reply for a long time. Is there any doubt about our information of smart watch(V01)? Can you Please give us some guidance as soon as possible? Thank you very much and best regards!

---Reply from Customer on 06/27/2016---

Dear Sir/Madam

Is the test procedure of SMART WATCH(V01)in attached document accepted? Or are we missing some information about it? Can you please give us some guidance as soon as possible? This case is very urgent for us. If it is convenient, please give us a reply as soon as possible.

Thank you very much and best wishes!

---Reply from Customer on 06/28/2016---

Dear Sir/Madam

We have perform a pre SAR test of GSM 850 wrist-worn mode with the GSM ANT direct contact against a head phantom, the test result and test setup show on the attached document.Plese check. Is the test procedure we use right? if not,plese give us some clear guidance.

Thank you very much and best regards!

---Reply from Customer on 06/28/2016---

Dear Sir/Madam

We have perform a pre SAR test of GSM 850 wrist-worn mode with the GSM ANT direct contact against a head phantom, the test result and test setup show on the attached document. Please check. Is the test procedure we use right? if not, please give us some clear guidance.

Thank you very much and best regards!

FCC Response on 06/28/2016:

The proposed face exposure (you call it next to mouth mode) positioning is acceptable per the guidance given in section 6.2 of FCC KDB Publication 447498 D01 General RF Exposure Guidance v06. However, the proposed positioning for the wrist exposure condition is unacceptable. While the head phantom filled with body tissue simulating liquid can be used, the device should be positioned in the curved cheek area or neck region of the head phantom. It should not be positioned near the ear pinna, mouth, nose, or eye area of the head phantom. Based on the photographs provided you seem to have positioned it near the ear pinna. Please reposition the device for the final SAR testing.

---Reply from Customer on 06/29/2016---

Dear Sir/Madam

We updated the test setup of wrist-worn mode with the GSM ANT direct contact against a neck region of the head phantom. The detailed show in the attached document, please check and give us a clear guidance.

Thank you very much and best regards!

---Reply from Customer on 06/30/2016---

Dear Sir/Madam

If the test setup of wrist-worn mode with the GSM ANT direct contact against a neck region of the head phantom we provided is right? Or is there any other questions? We are looking forward to your reply, please give us a guidance.

Thank you very much and best regards!

---Reply from Customer on 07/04/2016---

Dear Sir/Madam

We are looking forward to your reply for a long time. This case is very very urgent for us. Can you please give

us a reply as soon as possible? Or if we omit any information, please tell us. Thank you very much and best regards!

---Reply from Customer on 07/06/2016---

Dear Sir/Madam

We are looking forward to your reply for a long time. Can you please give us a reply? If the test setup of wrist-worn mode with the GSM ANT direct contact against a neck region of the head phantom we provided right? Or if you have other suggestion? please tell us. Thank you very much and best regards!

FCC Response on 07/11/2016:

The setup looks promising. Please run the SAR scan and respond to the inquiry with the SAR distribution attached. If the SAR scan is acceptable, we will provide clearance to allow the processing of the application by a TCB. In the SAR report, this test position will have to be documented with several photographs (not just one) taken from several different angles. Finally, please add the following statement to the SAR report: "A non-standard setup was used for SAR testing based on guidance from the FCC. The operational description contains additional information." Then add a statement in the operational description referencing this KDB Inquiry number (This is because the KDB Inquiry number is confidential but the SAR Report will be on public record).

---Reply from Customer on 07/12/2016---

Dear Sir/Madam

The attached document named "Smart Watch(V01) against neck region and its SAR scan" show the test setup of wrist-worn mode and a pre SAR scan of it. Please check and give us a guidance. Thank you very much and best regards!

FCC Response on 07/12/2016:

It is difficult to determine if the hotspot is captured by the 1-g cube based on the plot provided. Please reposition the plot so the 1-g cube can be seen. Additionally, the zoom scan is not aligned with the area scan, which is atypical. Finally, the plot indicates a drift of 0.32, nearly an 8% power drift. This is well above the max 5% allowed. Please rerun the test and provide an updated plot. If the drift is still quite high, additional guidance will be provided.

---Reply from Customer on 07/13/2016---

Dear Sir/Madam

The attached document named "Smart Watch(V01) against neck region and its SAR scan--Version 2" show the test setup of wrist-worn mode and the retest SAR scan of it. Please check and give us a guidance.

Thank you very much and best regards!

FCC Response on 07/15/2016:

It is preferred that the zoom scan is aligned with the area scan grid. Even in the most recent scan submitted on July 13th, the zoom scan is rotated and not aligned with the area scan. However, the hotspot looks good and is sufficiently captured. Additionally, the drift issue has been addressed. You may continue with the testing this device utilizing the guidance mentioned previously in this inquiry. Once again it would be preferable to align the zoom scan with area scan.

---Reply from Customer on 07/18/2016---

Dear Sir/Madam

The attached document named "Smart Watch(V01) against neck region and its SAR scan--Version 3" show the most recent test setup of wrist-worn mode and the retest SAR scan of it. Please check and give us a guidance..

Thank you very much and best regards!

FCC Response on 07/20/2016:

As mentioned in the previous FCC response, it is preferred that the zoom scan is aligned with the area scan grid. See the attachment, "Sample Scan" for an example. Note, the scan for your device will look significantly different. The "Sample Scan" is just to show an example of the zoom scan is aligned with the area scan grid.

---Reply from Customer on 07/21/2016---

Dear Sir/Madam

We had retest a SAR scan, Please check the attached document named "Smart Watch(V01) against neck region and its SAR scan--Version 4".

Please tell us if this SAR scan is acceptable.

Thank you very much and best regards!

FCC Response on 07/21/2016:

Once again, it is preferred that the zoom scan is aligned with the grid of the area. The most recent document (Version 4) shows the hotspot clearly captured, the SAR value is well below the limit, and a low drift (which is good). However, it is preferred the zoom scan is aligned with the area scan grid. If this is not possible, please indicate that fact in your response to this inquiry.

---Reply from Customer on 07/22/2016---

Dear Sir/Madam

We cannot understand the meaning of "the zoom scan is aligned with the grid of the area" correctly, Does it mean the green point (the max point of area scan) must be overlaps with the green line? Or the zoom scan must be parallel with the grid of the area? Can you give us a detailed explanation? If the two meaning above are right, we cannot achieve "the zoom scan is aligned with the grid of the area".

Please give us another guidance. Thank you very much and best regards!

---Reply from Customer on 07/27/2016---

Dear Sir/Madam

We cannot achieve "the zoom scan is aligned with the grid of the area". Please give us another guidance. We are looking forward to your reply, if it is convenient, please give us a reply as soon as possible.

Thank you very much and best regards!

---Reply from Customer on 07/27/2016---

Dear Sir/Madam

We cannot achieve "the zoom scan is aligned with the grid of the area". Please give us another guidance. We are looking forward to your reply, if it is convenient, please give us a reply as soon as possible.

Thank you very much and best regards!

FCC Response on 07/29/2016:

The zoom scan should be parallel to the grid of the area scan. If you are using a DASy 52 program this is accomplished by changing the properties of the area scan and the zoom scan. In the grid tab of both the area scan and the zoom scan properties, make sure the rotation angle is the same for both. This will ensure the zoom scan and the area scan are aligned.

---Reply from Customer on 08/01/2016---

Dear Sir/Madam

We have rerun a SAR scan with the rotation angle of zoom scan and area scan are the same. The detailed data shows on "Smart Watch(V01) against neck region and its SAR scan--Version 5". Please check and kindly tell us if the test procedure is right.

Thank you very much and best regards!

FCC Response on 08/04/2016:

Yes, the scan is acceptable. You may proceed with the filing. If you have additional questions please do not hesitate to ask.

Attachment List:

[Sample Scan](#)

[Smart Watch\(V01\) Test Position inquiry](#)

[Smart Watch\(V01\) against a head phantom without gap](#)

[Smart Watch\(V01\) against neck region and its SAR scan](#)

[Smart Watch\(V01\) against neck region and its SAR scan --version 2](#)

[Smart Watch\(V01\) against neck region and its SAR scan --version 3](#)

[Smart Watch\(V01\) against neck region and its SAR scan --version 4](#)

[Smart Watch\(V01\) against neck region and its SAR scan --version 5](#)

[Smart Watch\(V01\) against neck region of the head phantom](#)

Attachment:

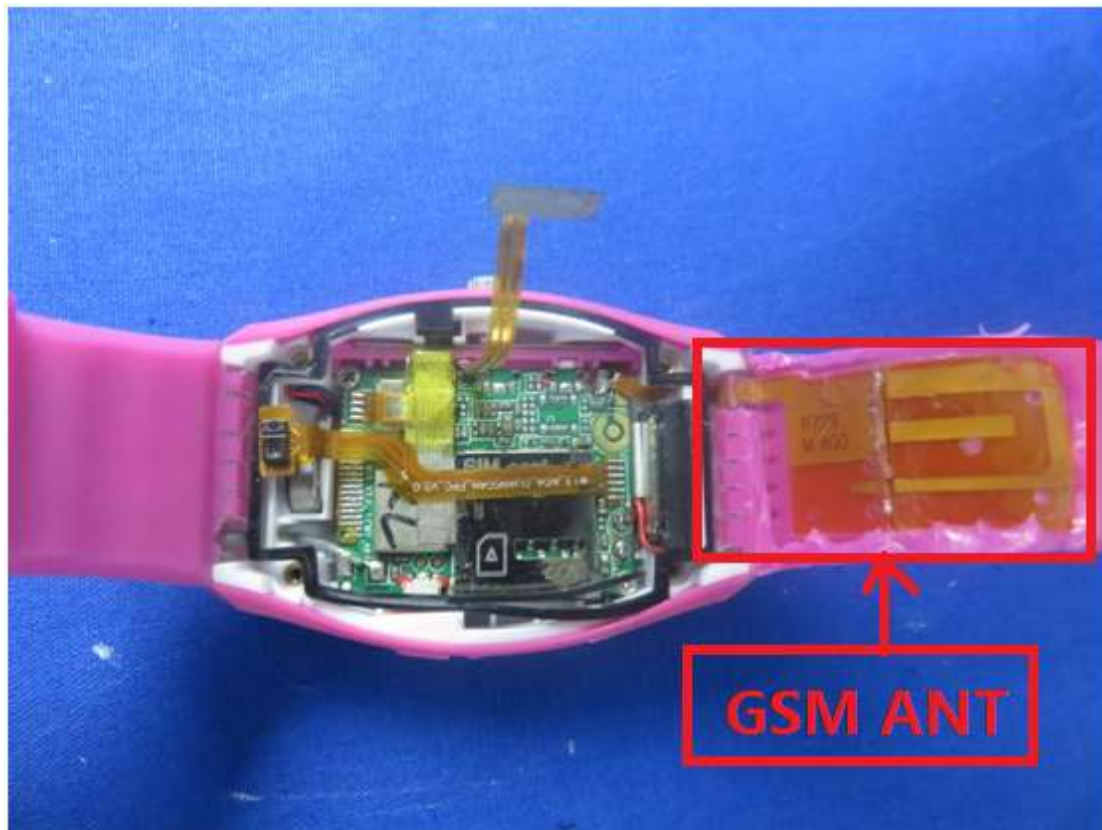
Smart Watch(V01) Test Position inquiry

Dear Sir/Madam

The V01 is a smart watch, it designed to operate in 850MHz and 1900MHz frequency and fully complies with KDB 447498 standards. The V01 is limited to speaker mode operations only, with the device worn on the wrist and positioned next to the mouth, not support the next to ear voice mode. The details as below:

V01:





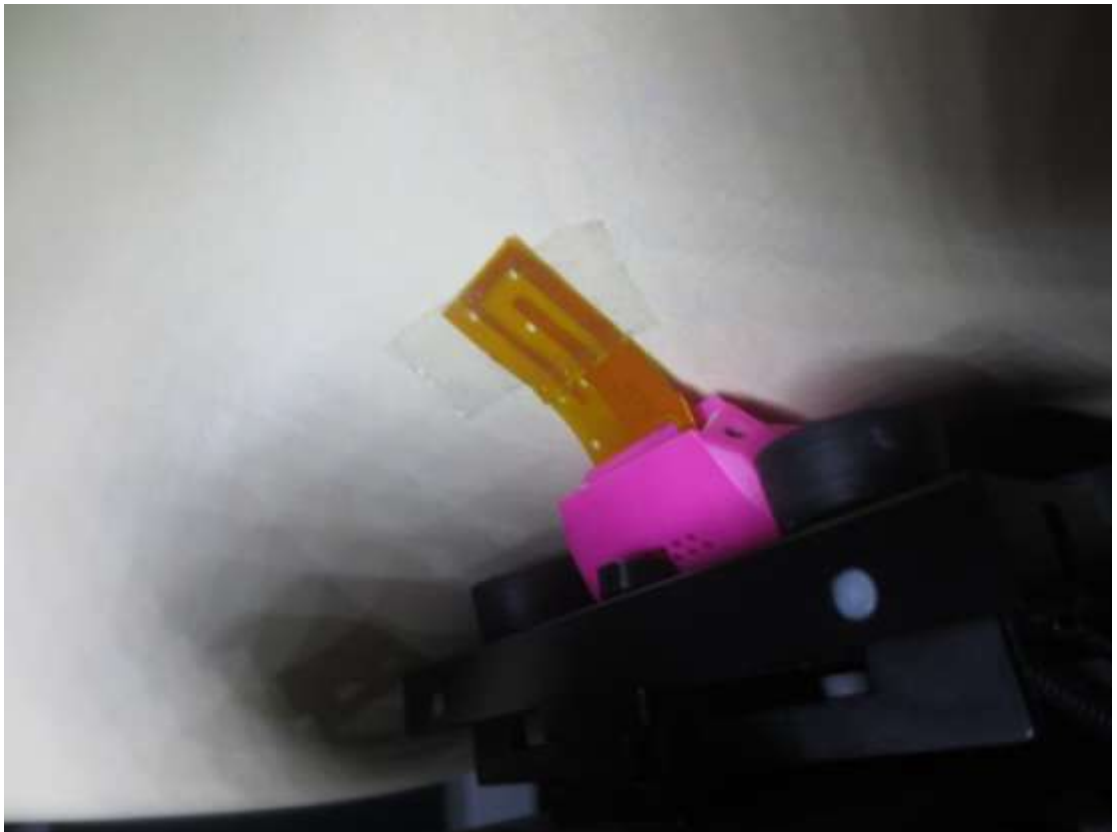
The wrist bands of V01 are curved and it cannot positioned in direct contact against a flat phantom with its back side. The wrist bands can separate from DUT's body; the **GSM antenna incorporated in the wrist band and locates in the inside of wrist band**. The size of antenna are 25mm(L)× 11mm(W). The distance of antenna extend into the strap is 10mm. The rigid plastic around the main assembly can remove. So we positioned the antenna in direct contact against a head phantom to obtain the Max SAR value.

The photos of the test positioning and disassembled watch band are show as below.

Please kindly tell us the test configuration as below if right, or any other details need be specially attention. Please give us some guidance .Thanks!



Position (1) Next to mouse mode (10mm Gap)



Position (2) Wrist on mode (0mm Gap)



Smart Watch(V01) against neck region and its SAR scan --version 5

Dear Sir/Madam

The test setup of wrist-worn mode show as the photo below, the ANT is positioned in direct contact against a neck region of the head phantom:



Photo 1 wrist-worn mode
(ANT against a neck region of the head phantom with 0mm)

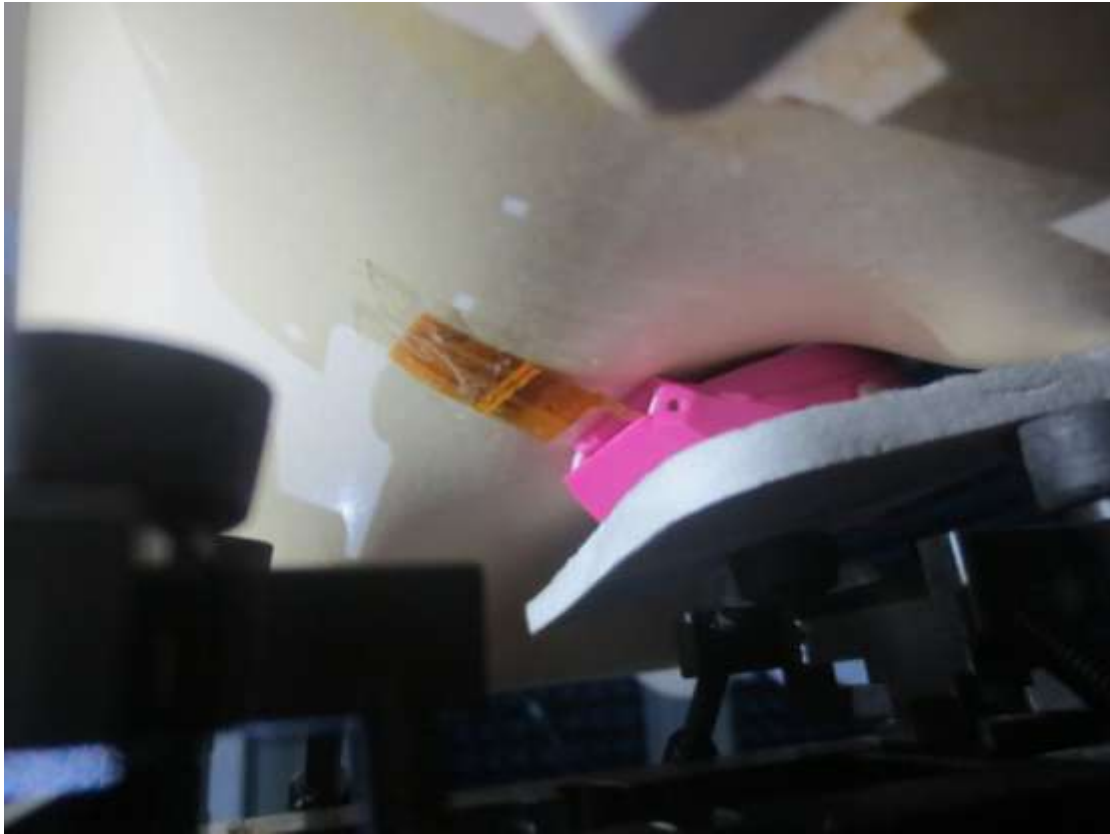


Photo 2 wrist-worn mode (different angles)
(ANT against a neck region of the head phantom with 0mm)

We have rerun a pre SAR test on wrist worn mode in GSM 850 MHz, and the result show as below:

DUT: SMART WATCH; Type: V01; Serial: 1#

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.978$ S/m; $\epsilon_r = 55.215$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3924; ConvF(9.46, 9.46, 9.46); Calibrated: 06.22.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1373; Calibrated: 02.11.2016
- Phantom: SAM 5.0; Type: QD000P40CD; Serial: TP:1765
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

GSM 850 Wrist-Worn/Middle Channel/Area Scan (51x61x1): Interpolated grid:
 $dx=1.5000$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.10 W/kg

GSM 850 Wrist-Worn/Middle Channel/Zoom Scan (5x5x7)/Cube 0:

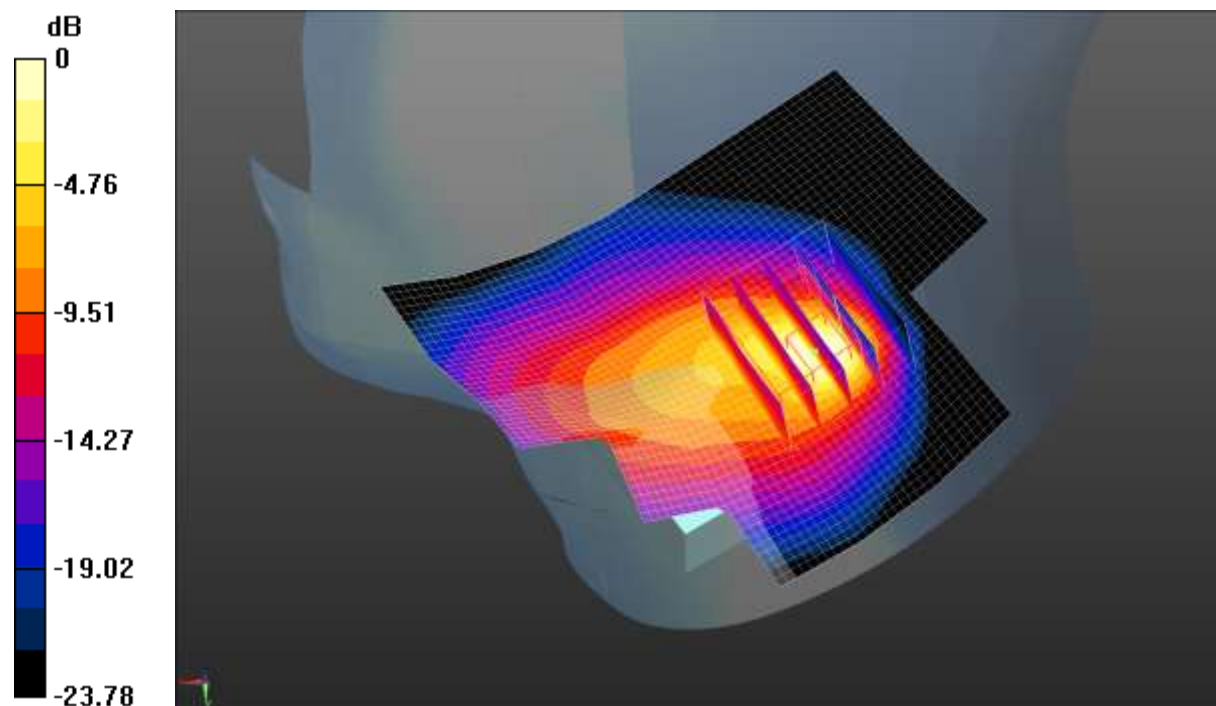
Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.519 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 0.911 W/kg; SAR(10 g) = 0.702 W/kg

Maximum value of SAR (measured) = 1.16 W/kg



0 dB = 1.16 W/kg = 0.64 dBW/kg

If the test setup of wrist-worn mode show on photo 1 is acceptable? And the retest SAR data is acceptable? Please give us guidance. We are looking forward to your reply.

Thank you very much and best regards!