

## Jennifer Sanchez

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**From:** Xu, Anya (Shanghai) [Anya.Xu@sgs.com]  
**Sent:** Monday, August 04, 2008 1:03 AM  
**To:** Jennifer Sanchez; Cai, Cai (Shanghai)  
**Cc:** Shawn McMillen; Len Knight; Chris Harvey; Angela Kekovski; Jenn Warnell  
**Subject:** RE: 81012 SGS - Request for Additional Information  
**Attachments:** ER-2008-40033-01 SGS 上海\_Part 22H+24E\_.pdf

Dear Jennifer,

The attachment is updated about your comment, please refer to it.

Please kindly review and your comments are welcomed.

Best regards!

Anya

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**From:** Jennifer Sanchez [mailto:jsanchez@metlabs.com]  
**Sent:** 2008年8月2日 8:05  
**To:** Xu, Anya (Shanghai); Cai, Cai (Shanghai)  
**Cc:** Shawn McMillen; Len Knight; Chris Harvey; Angela Kekovski; Jenn Warnell; Jennifer Sanchez  
**Subject:** 81012 SGS - Request for Additional Information  
**Importance:** High

Hi Anya & Cai Cai,

During the final review of your application, our reviewer has a concern, please see below:

*In the test report, for the Conducted Spurious testing, measurements were not made up to the 10th harmonic for the PCS band, pursuant § 2.1057 Frequency spectrum to be investigated. No explanation was given in the test report.*

Please address.

Thanks!

**Mrs. J. Sanchez**

TCB Administrator

MET Laboratories (Santa Clara, CA)

408-207-4785 Direct

408-829-1603 Cell

[jsanchez@metlabs.com](mailto:jsanchez@metlabs.com)



Certifying the World, One Product at a Time

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8/4/2008

## Jenn Warnell

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**From:** Xu, Anya (Shanghai) [Anya.Xu@sgs.com]  
**Sent:** Friday, July 25, 2008 6:38 AM  
**To:** Jenn Warnell  
**Cc:** Jennifer Sanchez; Angela Kekovski; Chris Harvey  
**Subject:** RE: EMC81012 - FCC for Part 22/24  
**Attachments:** Declaration of changes from OT-S120A to OT-S210A - SGS.pdf; Declaration of changes from OT-S210A to OT-S211A - SGS.pdf; U8-UM-MAP-USA-23-07-08.pdf; Test report (OT-S211A).pdf; 20\_U81 US family e-BOM.RAR; 08\_OT-S120,S210,S211 PCB layout drawing.rar; SGS-SAR-GSM10933828\_OT-S211A 0725.pdf

Dear Jenn,

Good morning.

Thanks for your information about this case.

Please find the attached updated documents of RAD078,

The specific comments refer to as follow up:

1): please refer to the documents (Declaration of changes from OT-S120A to OT-S210A - SGS.pdf and Declaration of changes from OT-S210A to OT-S211A - SGS.pdf).

2 and 7): please refer to the document (U8-UM-MAP-USA-23-07-08.pdf)

3): OT-S211A has USB port, it just for USB charging and uses earphone not mass storage.

4 and 6): please refer to the document (Test report (OT-S211A).pdf)

5): please refer to documents (20\_U81 US family e-BOM.rar and 08\_OT-S120, S210,S211 PCB layout drawing.rar) .

Due to the antenna is located near the moth position, we had already added to test, please refer to the SAR report.

Please kindly review and look forward to hearing from you.

Have a good weekend.

Best regards!

Anya

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**From:** Jenn Warnell [mailto:jwarnell@metlabs.com]  
**Sent:** 2008年7月8日 1:04  
**To:** Xu, Anya (Shanghai)  
**Cc:** Jenn Warnell; Jennifer Sanchez; Angela Kekovski; Chris Harvey  
**Subject:** EMC81012 - FCC for Part 22/24

Hello Anya,

Please see the attached letter for information regarding some concerns with your application found during review. Please let me know if you have any questions.

Thanks,

Jenn Warnell  
TCB Administrator/Documentation  
MET Laboratories, Inc.  
Phone: 410-949-1877  
Fax: 410-354-3313  
[www.metlabs.com](http://www.metlabs.com)

7/25/2008

## Jennifer Sanchez

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**From:** Xu, Anya (Shanghai) [Anya.Xu@sgs.com]  
**Sent:** Wednesday, July 30, 2008 10:17 PM  
**To:** Chris Harvey; Jenn Warnell  
**Cc:** Jennifer Sanchez; Angela Kekovski  
**Subject:** RE: Additional information needed for METrak# 81012 : FCC ID: RAD078 TCB Application - Notice #2  
**Attachments:** 5\_Operational descriptionOT-S120A,S210A,S211A.DOC; RE: OT-S120A/OT-S210A/OT-S211A Issues from TCB; RE: Additional information needed for METrak# 81012 : FCC ID: RAD078 TCB Application - Notice #2

Dear Chris,  
Thanks kindly for your comments.  
I had explained for the comment one by one, please refer to them under your email with blue mark.  
Thanks in advance.

BR!  
Anya

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**From:** Chris Harvey [mailto:charveyemc@gmail.com] **On Behalf Of** Chris Harvey  
**Sent:** 2008年7月30日 21:32  
**To:** Xu, Anya (Shanghai); 'Jenn Warnell'  
**Cc:** 'Jennifer Sanchez'; 'Angela Kekovski'  
**Subject:** Additional information needed for METrak# 81012 : FCC ID: RAD078 TCB Application - Notice #2

Dear Anya, I have now had the opportunity to review the documents I received on Friday and have the following additional comments that need to be addressed before the review can be continued:

The original test report indicated that a 100kHz RBW was used for the ERP measurements. The updated test report states that the Spectrum Analyzer was set to 250kHz, but the measurement values are identical to the measurements using 100kHz. The ERP measurements should be performed with a 1MHz RBW.

The document (RE: OT-S120A/OT-S210A/OT-S211A Issues from TCB) is the Vincent's response about this question from

Taiwan. Vincent is FCC RF Manager, if this part still has the question, he will contact you directly through email or you could call him.

The Test Report and Manual states that a 670mAh battery is used/available; however the Operational Description states that this device will operate in standby for 250 hours using a 750mAh battery. It appears that the 750mAh battery was not used for testing. Please confirm that all batteries to be used with this device have been tested for SAR compliance and update any exhibits that contain incorrect information.

Sorry for forgot to send the document of operational description last time, Please refer to the document (5\_Operational descriptionOT-S120A,S210A,S211A.doc).

The updated SAR report has additional SAR measurements for the antenna near mouth region, using a separation distance of 0.5cm to the phantom. It appears that the highest SAR values using a separation of 0.5cm (GSM 0.419W/kg and PCS 0.494 W/kg.) are lower than the Body SAR measurements using a 2.0cm separation (GSM 0.883 W/kg) and slightly higher than the PCS 0.455 W/kg.) Please explain this discrepancy and re-measure as necessary.

Please refer to the document (RE: Additional information needed for METrak# 81012 : FCC ID: RAD078 TCB Application - Notice #2), it is the response from the SAR manager's Will.

Please let me know if you have any questions. Please provide a single response to all these issues.

Best regards,

Chris Harvey

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**From:** Xu, Anya (Shanghai) [mailto:Anya.Xu@sgs.com]

7/31/2008

## Jennifer Sanchez

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**From:** Ni, Will (Shanghai) [Will.Ni@sgs.com]  
**Sent:** Wednesday, July 30, 2008 7:47 PM  
**To:** Xu, Anya (Shanghai)  
**Subject:** RE: Additional information needed for METrak# 81012 : FCC ID: RAD078 TCB Application - Notice #2

Dear Chris,

Thanks for your comments and I have my explanations as follow.

Since it's the near field exposure, the less distance can probably produce higher SAR value.

In this case, with the precondition that the antenna is not only located at the bottom but also at the rear of the handset, we can roughly figure out the actually distance like this:

For Body SAR Measurement, the DUT rear faces to the Flat Phantom, the distance is about 2.0cm with direct exposure;

For Additional SAR Measurement, the DUT front faces to the Flat Phantom, the distance is about 0.5cm+1.2cm (thickness of the handset).

So the DUT positioning difference can lead to the antenna location and emission difference and result in the SAR value difference.

Also the different tissue liquids used in these two cases could be another factor.

Will

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**From:** Xu, Anya (Shanghai)  
**Sent:** Thursday, July 31, 2008 8:42  
**To:** Ni, Will (Shanghai)  
**Cc:** Wang, Ken-GH (Shanghai)  
**Subject:** FW: Additional information needed for METrak# 81012 : FCC ID: RAD078 TCB Application - Notice #2

FYI

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**From:** Chris Harvey [mailto:charveyemc@gmail.com] **On Behalf Of** Chris Harvey  
**Sent:** 2008年7月30日 21:32  
**To:** Xu, Anya (Shanghai); 'Jenn Warnell'  
**Cc:** 'Jennifer Sanchez'; 'Angela Kekovski'  
**Subject:** Additional information needed for METrak# 81012 : FCC ID: RAD078 TCB Application - Notice #2

Dear Anya, I have now had the opportunity to review the documents I received on Friday and have the following additional comments that need to be addressed before the review can be continued:

The updated SAR report has additional SAR measurements for the antenna near mouth region, using a separation distance of 0.5cm to the phantom. It appears that the highest SAR values using a separation of 0.5cm (GSM 0.419W/kg and PCS 0.494 W/kg.) are lower than the Body SAR measurements using a 2.0cm separation (GSM 0.883 W/kg) and slightly higher than the PCS 0.455 W/kg.) Please explain this discrepancy and re-measure as necessary.

Please let me know if you have any questions. Please provide a single response to all these issues.

Best regards,

Chris Harvey

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**From:** Xu, Anya (Shanghai) [mailto:Anya.Xu@sgs.com]  
**Sent:** Tuesday, July 29, 2008 1:32 AM  
**To:** Jenn Warnell  
**Cc:** Jennifer Sanchez; Angela Kekovski; Chris Harvey  
**Subject:** RE: EMC81012 - FCC for Part 22/24

7/31/2008

## Jennifer Sanchez

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**From:** Su, Vincent (Taipei) [Vincent.Su@sgs.com]  
**Sent:** Wednesday, July 30, 2008 8:01 PM  
**To:** Xu, Anya (Shanghai); Cai, Cai (Shanghai)  
**Subject:** RE: OT-S120A/OT-S210A/OT-S211A Issues from TCB

Hi Anya

The test procured is TIA/EIA 603C for license bands transmitter. I can not find the spectrum setting for fundamental ERP/EIRP testing, but I got Unwanted emission setting as below. It could be a reference.

For GSM 850 Band ERP testing, due to the emission bandwidth is around 250KHz, so I believe RBW 250KHz, and VBW1MHz is enough to cover bandwidth 250KHz, I don't think it requires 1MHz RBW.

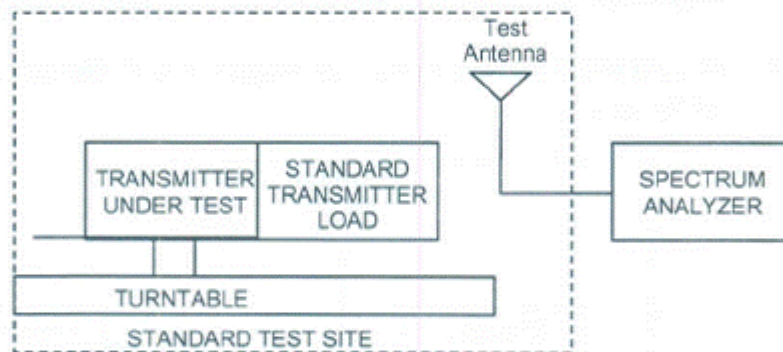
For GSM 1900 Band EIRP testing, emission bandwidth is around 250KHz also, but it's above 1GHz, so we used RBW 1MHz, and VBW 3MHz.

## 2.2.12 Unwanted Emissions: Radiated Spurious

### 2.2.12.1 Definition

Radiated spurious emissions are emissions from the equipment when transmitting into a nonradiating load on a frequency or frequencies that are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communications desired.

### 2.2.12.2 Method of Measurement (Non-Radiating Load)



- a) Connect the equipment as illustrated.
- b) Adjust the spectrum analyzer for the following settings:
  - 1) Resolution Bandwidth = 10 kHz for spurious emissions below 1 GHz, and 1 MHz for spurious emissions above 1GHz.
  - 2) Video Bandwidth = 300 kHz for spurious emissions below 1 GHz, and 3 MHz for spurious emissions above 1 GHz.
  - 3) Sweep Speed slow enough to maintain measurement calibration.
  - 4) Detector Mode = Positive Peak.

Anya, you might pass me the contact window of MET, I can talk to them directly.

Vincent Su / RF Manager

SGS Taiwan Ltd.- Electric & Communication Lab

e-mail address: [vincent.su@sgs.com](mailto:vincent.su@sgs.com)

TEL: 886-2-22993939 # 1480

FAX: 886-2-22999489

No. 134, Wu Kung Road, Wuku Industrial Zone,

Taipei County, Taiwan

測試服務內容查詢請至: [http://www.tw.sgs.com/zh\\_tw/e\\_e\\_lab\\_tw.htm?ServiceId=55743&lobId=26988](http://www.tw.sgs.com/zh_tw/e_e_lab_tw.htm?ServiceId=55743&lobId=26988)

**From:** Xu, Anya (Shanghai)

**Sent:** Thursday, July 31, 2008 9:09 AM

7/31/2008

**To:** Su, Vincent (Taipei); Hsieh, Alex (Taipei)  
**Cc:** Cai, Cai (Shanghai); Kuo, Cathy (Taipei)  
**Subject:** RE: OT-S120A/OT-S210A/OT-S211A Issues from TCB

Dear Vincent,

OT-S120A/OT-S210A/OT-S211A这三个案子再次申请FCC时，part22/part24部分的报告仍然存在问题，具体如下，请帮忙解决，谢谢！

The original test report indicated that a 100kHz RBW was used for the ERP measurements. The updated test report states that the Spectrum Analyzer was set to 250kHz, but the measurement values are identical to the measurements using 100kHz. The ERP measurements should be performed with a 1MHz RBW.

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**From:** Su, Vincent (Taipei)  
**Sent:** 2008年7月9日 10:33  
**To:** Hsieh, Alex (Taipei)  
**Cc:** Cai, Cai (Shanghai); Kuo, Cathy (Taipei); Xu, Anya (Shanghai)  
**Subject:** RE: OT-S120A/OT-S210A/OT-S211A Issues from TCB

Alex

Please revise our report, according to Q2, the answer is typing error, revise to 250KHz

Vincent Su / RF Manager

**SGS Taiwan Ltd.- Electric & Communication Lab**

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測試服務內容查詢請至: [http://www.tw.sgs.com/zh\\_tw/e\\_e\\_lab\\_tw.htm?ServiceId=55743&lobId=26988](http://www.tw.sgs.com/zh_tw/e_e_lab_tw.htm?ServiceId=55743&lobId=26988)

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**From:** Xu, Anya (Shanghai)  
**Sent:** Wednesday, July 09, 2008 10:00 AM  
**To:** Su, Vincent (Taipei); Kuo, Cathy (Taipei)  
**Cc:** Hsieh, Alex (Taipei); Cai, Cai (Shanghai)  
**Subject:** RE: OT-S120A/OT-S210A/OT-S211A Issues from TCB  
**Importance:** High

Dear Vincent,

Would you please give your reply for comment 2? Thanks.

Dear Alex,

7/31/2008



Please help revise the three reports ASAP.

Thanks.

By the way, Anya is out of office for her vacation from July. 9 to July 20. I am Cai Cai is taking over her job for a while. Thanks for your corporation.

BR

Cai Cai

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**From:** Xu, Anya (Shanghai)  
**Sent:** 2008年7月8日 8:52  
**To:** Hsieh, Alex (Taipei)  
**Cc:** Su, Vincent (Taipei); Kuo, Cathy (Taipei)  
**Subject:** OT-S120A/OT-S210A/OT-S211A Issues from TCB

Dear Alex,

OT-S120A/OT-S210A/OT-S211A在申请FCC Grant时，TCB对part22&part24部分提出两个问题，请帮忙解决，谢谢！

Page 10 of the test report mentions GPRS mode of operation and a data cable, but the RF test data and SAR test data do not mention GPRS capability. Does this device operate in GPRS mode and, if yes, what GPRS class and was this mode testing?

1. Does this device use a data cable?

Please confirm the measurement instrument (Spectrum Analyzer) settings for the ERP power measurements on page 17 for below 1GHz. According to the remarks, the RBW was set to 100kHz, which is smaller than the emission bandwidth of approximately 250kHz.

2.

Best Regards

Anya Xu

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Project Manager

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**Intro**

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7/31/2008