

## Jenn Warnell

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**From:** Jennifer Sanchez  
**Sent:** Friday, July 24, 2009 6:39 PM  
**To:** Jeffrey Hazen  
**Cc:** Angela Kekovski; Jenn Warnell; Jennifer Sanchez; Shawn McMillen  
**Subject:** RE: Technical Review Request: JOB#26134, L3 Communications, FCC 15.247  
**Importance:** High

Hi Jeff,

Please see the engineers comment below:

=> This speaker phone will only apply to the Body measurement and the SAR over 1g result is so far from the limit. Testing the device with the speakerphone is unnecessary since it will draw current from the device and the SAR result will be even lower.

Thanks!

**J. Sanchez**

TCB Administrator

**MET Laboratories, Santa Clara CA**

408-207-4785 Office

408-829-1603 Cell

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



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**From:** Jeffrey Hazen  
**Sent:** Thursday, July 23, 2009 11:11 AM  
**To:** Jennifer Sanchez  
**Cc:** Angela Kekovski; Jenn Warnell  
**Subject:** RE: Technical Review Request: JOB#26134, L3 Communications, FCC 15.247

Hi Jennifer,

Please see the only RT response, listed in green below:

Regards,

Jeff Hazen

Sr. RFID Hw. Conformance Engineer/  
Wireless Project Engineer/Technical Reviewer  
**MET Laboratories, Inc.**  
410-949-1899 (direct)  
[www.metlabs.com](http://www.metlabs.com)

7/27/2009



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**From:** Jennifer Sanchez  
**Sent:** Wednesday, July 22, 2009 5:04 PM  
**To:** Jeffrey Hazen  
**Cc:** Shawn McMillen; Angela Kekovski; Jenn Warnell; Jennifer Sanchez  
**Subject:** RE: Technical Review Request: JOB#26134, L3 Communications, FCC 15.247  
**Importance:** High

Hi Jeff,

Please see response below and revised documents attached:

1. For the third and last photograph in the [Internal Photos.pdf](#), many of the components in the photograph appear blurry. Photographs that clearly show all components of the device are necessary for the FCC to compare off-the-shelf models to models that were tested. Therefore, please direct us to the photographs that clearly show all components of the system.
2. The External photos do not show the antenna sold with the device. Please indicate where this photograph may be found.

For #1 & #2: The main board was separated into 2 parts to improve the quality of the picture. Please see revised photos attached.

1. The supporting manufacturer documentation indicates that the EUT is sold with a speakerphone; however, it does not appear that the speakerphone accessory was tested with the EUT in EMC26134-SAR FCC Rev 1.pdf. Please justify why this testing was not included in the SAR test report.  
- This is a passive device not containing any RF components.

In the second paragraph on page 46 of 57 in OET 65C, it states that headsets and microphones should be attached to the device in its normal configuration. Please justify why the device does not appear to have been tested in this way.

2. The calibration certificate for the E-field probe shows that the probe was calibrated more than 1 year from the date of test. Please confirm that this is the correct certificate and that its calibration is according to the test lab quality policy.  
- The E-Field probe is on a 2 years calibration cycle as per our A2LA accreditation
3. On page 32 of 65 in EMC26134-SAR FCC Rev 1.pdf, the power drift is beyond the 5% limit. Please justify the use of this data or provide data that is compliant for power drift within the 5% limit.  
- The drift reported for that particular SAR scan is positive; therefore the final value would be less than the reported 0.097 mW/g. Also, the EUT was tested for "Occupational/Controlled" environment with a limit of 8 mW/g. The highest reported head SAR was > 0.16 mW/g which is approximately 3dB greater than the scan in question.
4. The output power set for the EUT during SAR testing could not be found in EMC26134-SAR FCC Rev 1.pdf. Please indicate where this might be found.  
The output power is recorded in the table on page 7 column 4.

5. For the left and right tilt plots of EMC26134-SAR FCC Rev 1.pdf, it appears that there are multiple hotspots within 2 dB of the peak for each other; however, they do not appear to have been examined for each hotspot. Please justify why testing was not performed at each hotspot.

The Dasy 4 software was set to evaluate any hot spots that were within 2dB of the peak SAR measured. According to the DASY software the plots with multiple peaks were not within 2dB of each other.

For the customer:

A statement of SAR compliance could not be found in the associated documentation/user manual. Per FCC requirements, the end user needs to be notified about the SAR compliance of the device. Please indicate where this might be found.

Please see revised manual attached. Also, please address customers questions below:

If I add the following to the Manual would it be adequate?

“This equipment is in compliance for localized specific absorption rate (SAR) for uncontrolled environmental / general population exposure limits specified in ANSI/IEEE Std. C95.1-1999.” On page 2 Item 8

And

“To comply with RF safety requirements use the specific belt clip. All other belt clips should be avoided and may not comply with RF safety requirements (for fair-trade do not exclude 3<sup>rd</sup> party accessories).” On page 2 Item 10.

Thanks!

**J. Sanchez**

TCB Administrator

**MET Laboratories, Santa Clara CA**

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**From:** Jeffrey Hazen

**Sent:** Thursday, July 16, 2009 1:26 PM

**To:** Jenn Warnell

**Cc:** Jennifer Sanchez; Jesse Trawinski; Angela Kekovski

**Subject:** RE: Technical Review Request: JOB#26134, L3 Communications, FCC 15.247

Hi Jenn/JSan:

Enclosed are my RTs for this job:

General RTs:

For the third and last photograph in Internal Photos.pdf, many of the components in the photograph appear blurry.

7/27/2009

Photographs that clearly show all components of the device are necessary for the FCC to compare off-the-shelf models to models that were tested. Therefore, please direct us to the photographs that clearly show all components of the system.

The external photos do not show the antenna sold with the device. Please indicate where this photograph may be found.

For the customer:

A statement of SAR compliance could not be found in the associated documentation/user manual. Per FCC requirements, the end user needs to be notified about the SAR compliance of the device. Please indicate where this might be found.

For the test lab:

FYI, in section H of the Equipment Configuration in EMC26134-FCC247 Rev 1.pdf, the Mode of Operation describes the EUT with a "NO" key. Please check if this should be called the "ON" key.

FYI, Photograph 1 of EMC26134-FCC247 Rev 1.pdf does not show the position of the LISN or the connecting cables. In future reports, please show the full setup of the test.

On Page 35 and 36 of 71 of EMC26134-FCC247 Rev 1.pdf, the data and plot provided are given compared to Class A limits; whereas the 15.207 test does not use the Class A limits. The data looks like it will comply with the 15.207 limits; however, we recommend that you adjust this data according to the correct limit for clarity in the report.

FYI, the Test Procedure on page 38 of 71 states that the resolution bandwidth used in testing was approximately 1% of the emissions bandwidth; whereas the plots provided show the resolution bandwidth at values other than 1 %.

SAR Testing:

For the customer:

The following statement could not be found in the user manual:

To comply with RF safety requirements use the specific belt clip. All other belt clips should be avoided and may not comply with RF safety requirements (for fair-trade do not exclude 3rd party accessories)

Please indicate where such a statement might be found.

For the test lab:

FYI, on page 15 of 65 in EMC26134-SAR FCC Rev 1.pdf, the measured 1g SAR has a double period. Please check this statement for accuracy.

The supporting manufacturer documentation indicates that the EUT is sold with a speakerphone; however, it does not appear that the speakerphone accessory was tested with the EUT in EMC26134-SAR FCC Rev 1.pdf. Please justify why this testing was not included in the SAR test report.

The calibration certificate for the E-field probe shows that the probe was calibrated more than 1 year from the date of test. Please confirm that this is the correct certificate and that its calibration is according to your test lab's quality policy.

On page 32 of 65 in EMC26134-SAR FCC Rev 1.pdf, the power drift is beyond the 5% limit. Please justify the use of this data or provide data that is compliant for power drift within the 5% limit.

The output power set for the EUT during SAR testing could not be found in EMC26134-SAR FCC Rev 1.pdf. Please indicate where this might be found.

In EMC26134-SAR FCC Rev 1.pdf, the mode of operation of the EUT used during SAR testing does not appear to have been provided. Please indicate where this might be found.

For the left and right tilt plots of EMC26134-SAR FCC Rev 1.pdf, it appears that there are multiple hotspots within 2 dB of the peak for each other; however, they do not appear to have been examined for each hotspot. Please justify why testing was not performed at each hotspot.

Regards,

Jeff Hazen

7/27/2009

Sr. RFID Hw. Conformance Engineer/  
Wireless Project Engineer/Technical Reviewer  
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**From:** Jenn Warnell  
**Sent:** Tuesday, July 14, 2009 2:31 PM  
**To:** Jeffrey Hazen  
**Cc:** Jenn Warnell; Jennifer Sanchez; Shawn McMillen  
**Subject:** Technical Review Request: JOB#26134, L3 Communications, FCC 15.247

Hello Jeff,  
Please accomplish the technical review for this FCC application with the following information:

[K:\METrak\\_Job\\_Folders\2008\L\L3 Communications - L3C1\26134\TCB\Customer Info](K:\METrak_Job_Folders\2008\L\L3 Communications - L3C1\26134\TCB\Customer Info)

Please keep in mind the application should be reviewed within 24 - 48 hours. Let me know if I should provide you anything else, or if there may be any delays you may foresee in reviewing.

Thank you!

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

