

## Chris Harvey

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**From:** Kyung-Taek LEE [leekt@digitalemc.com]  
**Sent:** Thursday, March 04, 2004 8:19 AM  
**To:** Chris Harvey  
**Subject:** RE: initial review of SAR for (FCC ID: O25PF-100NW and O25PJ-100NW) MT#'s 15118 & 15138

Dear Mr. Chris Harvey;

Hello,

I send the revised SAR information.

Best regards,  
K.T LEE

-----Original Message-----

**From:** Chris Harvey [mailto:Chrisarveyemc@comcast.net]  
**Sent:** Thursday, March 04, 2004 1:32 PM  
**To:** 'Kyung-Taek LEE'  
**Cc:** charvey@ieee.org  
**Subject:** RE: initial review of SAR for (FCC ID: O25PF-100NW and O25PJ-100NW) MT#'s 15118 & 15138

KT, I have started reviewing this information and have these initial comments:

The FCC\_SAR\_Information documents state that 6618mW (otherwise know as 6.6 Watts) is less than 5W, which is not correct. If you use the 50% Duty Factor allowed by the FCC for PTT radios, you can reduce the average power by half and you can make a correct statement about the Conducted Power being less than the 'Low Threshold' and thus SAR is not required. Please make sure you include calculations for both Conducted and ERP (or EIRP) power being below the low threshold. Please revise this information.

I will continue to review the documentation.

Best regards,

Chris Harvey

-----Original Message-----

**From:** Kyung-Taek LEE [mailto:leekt@digitalemc.com]  
**Sent:** Wednesday, March 03, 2004 4:19 AM  
**To:** Chris Harvey  
**Cc:** charvey@ieee.org  
**Subject:** RE: initial review of SAR for (FCC ID: O25PF-100NW and O25PJ-100NW) MT#'s 15118 & 15138

Dear Mr. Chris Harvey;

Hello,

I send the revised manual and SAR information.

Best regards,  
K.T LEE

-----Original Message-----

**From:** Chris Harvey [mailto:Chrisarveyemc@comcast.net]

**Sent:** Wednesday, March 03, 2004 12:22 AM  
**To:** 'Kyung-Taek LEE'  
**Subject:** RE: initial review of SAR for (FCC ID: O25PF-100NW and O25PJ-100NW) MT#'s 15118 & 15138

KT, normally PTT (Push-to-Talk) Radios that are held close to the face require RF Exposure evaluation. One way of evaluating for RF Exposure is to perform SAR testing. Many times SAR is required. However, according to the TCB Exclusion list forwarded to you in the previous e-mail, if your device operates below the 'low-threshold' then SAR is optional. However, you must calculate according to specifications of your device if you are operating below the low threshold. Also, you must show that under normal operation that the antenna would be 2.5cm or greater from the body (both face and body worn) in order to be able to use the >2.5cm numbers in the calculation.

Since you have not provided SAR test results for these 2 PTT radios, you must provide the information that shows that SAR is not required.

Does that help? I can not calculate the numbers for you.

Chris

-----Original Message-----

**From:** Kyung-Taek LEE [mailto:leekt@digitalemc.com]  
**Sent:** Tuesday, March 02, 2004 4:28 AM  
**To:** Chris Harvey  
**Subject:** RE: initial review of SAR for (FCC ID: O25PF-100NW and O25PJ-100NW) MT#'s 15118 & 15138

Dear Mr. Chris Harvey;

Hello, thank you for your help.

You said that 'Please submit RF Exposure calculations that shows that the normal use held-to-face and body-worn will be 2.5cm or greater (photo with measurements works well) and calculates the low threshold at the 136MHz frequency to show that SAR is not needed.'

Please let me know the meaning of it in detail.

Best regards,  
K. T. LEE

-----Original Message-----

**From:** Chris Harvey [mailto:Chrisarveyemc@comcast.net]  
**Sent:** Friday, February 27, 2004 11:44 PM  
**To:** 'Kyung-Taek LEE'  
**Cc:** 'Marianne Bosley'  
**Subject:** initial review of SAR for (FCC ID: O25PF-100NW and O25PJ-100NW) MT#'s 15118 & 15138

KT, I have been researching the RF Exposure requirements for the Unimo 136-174 MHz Push-To-Talk (PTT) devices (FCC ID: O25PF-100NW and O25PJ-100NW) and see that there are some issues that need to be addressed.

I have been assuming that these PTT's will be used for Occupational Use, and thus can use the Occupational RF Exposure guidelines. If this is not for Occupational Use Only then they are likely to require SAR testing. Please refer to

the attached TCB Exclusion document for more information. The maximum allowed Duty Cycle allowed for PTT devices for FCC requirements is 50% (FCC Policy).

Please submit RF Exposure calculations that shows that the normal use held-to-face and body-worn will be 2.5cm or greater (photo with measurements works well) and calculates the low threshold at the 136MHz frequency to show that SAR is not needed.

Your current Users Manuals (for all 4 Unimo applications) do not restrict use to 'Occupational Use Only', uses a 2cm separation and implies that SAR testing was performed. This RF Exposure information must be corrected. You can use the guidance in the Certification filing for FCC ID: AFJ269100 for an example of acceptable Occupational RF Exposure information.

I will continue to review all the Unimo application for other areas, but wanted to give you the opportunity to address this issue right away.

Please contact me if you have any questions.

Best regards,

Chris Harvey  
443-622-3300  
[charvey@ieee.org](mailto:charvey@ieee.org)