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       To: fcoperic@fcc.gov
     From: Bill Moyer x8-3542 <wmoyer@qualcomm.com>
  Subject: Requested Information for FCC ID J9CGSDF1, EA94247 Filing
       Cc: pguckian, kstambau
      Bcc:
X-Attachments:
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Frank Coperich:

This e-mail will be printed to disk using PDFWriter and submitted as an attachment pdf file via the filing submissions Webpage. It is also being sent to you directly in parallel so that we will have a record of what was submitted, that being something the Webpage does not always provide due to time-out problems. My responses to your specific questions and comments are interleaved below in blue italics so they may be more readily discerned.

>Date: Thu, 5 Aug 1999 14:30:47 -0400
>From: oetech@fccsun07w.fcc.gov (OET)
>To: wmoyer
>Subject:
>
>To: William Moyer, Qualcomm Incorporated
>From: Frank Coperich
> fcoperic@fcc.gov
> FCC Application Processing Branch
>
>Re: FCC ID J9CGSDF1
>Applicant: Qualcomm Incorporated
>Correspondence Reference Number: 9097
>731 Confirmation Number: EA94247
>Date of Original E-Mail: 08/05/1999
>
>
>1.) Many of the files uploaded thru the EAS system were not in the proper Exhibit location, i.e. external photos should be put into the external photos Exhibit and so on. This misdirection of files slows down the review process.

*Understood. We will subdivide our future filings so external photos are separated from internal photos and so forth.*

>
>2.) Several unnecessary files were received. These were the EMC Test Report and Test Plan, addressing non-FCC issues. Note that we must review all files sent to be sure of finding any appropriate test data or description. Sending of unnecessary files slows down the review process.

*The internal and external color photos and the case and cable radiated out-of-band and spurious unintentional emissions test data were taken from the TUV EMC test report. That document is required to be copied and distributed only in its entirety per its copyright statement, unless explicit written permission to do otherwise is obtained from TUV. In the interests of expediting the filing submission, the entire document was submitted, rather than extracting the color photos and those portions of the test report documenting the radiated emissions test results and obtaining permission to distribute that subset of the test report document. The color photos were submitted in parallel as separate pdf*

*files only because the entire document including the color photographs was too large to fit through the FCC electronic filing Webpage filter. The test plan was provided because it has been my experience that EMC test plans are necessary to understand EMC test reports.*

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>3.) Many files were marked as Confidential which do not qualify for Confidential status. These correspond to the Items 1 thru 8 of your Confidentiality request letter.

*Confidentiality requests were driven by fact that the source documents were labeled with various Qualcomm or Globalstar propriety, confidential, or limited distribution statements or in fact (in the case of the EMC test plan provided for the reasons disclosed in Response 2 above and in the case of the System Description document) contained information which we do not believe should be disseminated beyond the distribution lists and the FCC or other administrations.*

>

>4.) Note that the DFUT Installation Guide does not cover the RAU.

*The DFUT Installation Guide, submitted as file E.12 80-25811-1X2.pdf, deals explicitly with the installation of the DFUT RAU and Junction Box.*

*Is it possible that you are referring to the DFUT Deskset Users manual, submitted as file E.11 80-25800-1X2.pdf, which addresses the DFUT Deskset user interface? The only other possibility is that you did not receive a complete DFUT Installation Guide in the electronic submission, although the nature of your comments in Question 9, wherein you cross-compared the DFUT and AFUT Installation Guides, implies that you did receive the DFUT Installation Guide.*

>

>5.) Please note that we do need the 700 Hz narrow band measurement of emissions. This test / specification is intended to show concentrated emissions that would not otherwise be visible in a wide band (averaged) measurement.

*At your behest narrowband emissions measurements have been taken for Channel 1, the lowest frequency and hence worst case channel with respect to emissions in the 1559-1605 MHz band, using a fixed notch filter centered on the Channel 1 frequency. The supplemental narrowband emissions test plan and report showing the results will be uploaded as attachment files* E.3b UT Pt. 25 NB OOBE TP.pdf *and* E.4b DFUT NB OOBE TR.pdf*. Due to limitations of spectrum analyzers, 700 Hz resolution bandwidth measurements cannot be made directly and hence 1 kHz and 300 Hz measurements were made with appropriate bandwidth correction factors. As anticipated, all narrowband spectral content revealed was well below the broadband noise signature previously measured. Similar data will be obtained and submitted for the other Globalstar UT filings.*

>

>6.) Please note that your Plots on Pages 9 thru 32 of the OOBE test report are not legible.

*Apologies for the quality of the plots, they were the best then available. At the time those measurements were made we had not yet gotten the spectrum analyzer-to-pc interface software to work properly and hence used an old available dot-matrix printer. In supplement to the previously-submitted manual OOBE test plan and report, we are uploading*

*the following additional DFUT files from our automated compliance test lab: E.3a 80-98735-1_x1.pdf and E.4a DFUT n&s data.pdf. These files, obtained originally for ETSI TBR-41 testing, have clear and easy to read plots with all loss correction factors applied against the data.*

*These compliance lab test files contain the same format data as that provided for the Analog Fixed UT, Tri-Mode Portable UT, and Car Kit filings. (SMP UT compliance lab test plan and report files will also be uploaded for the Single-Mode Portable UT filing, whose OOBE test report suffers from the same and worse plot quality problems that you noted in the DFUT filing.)*

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>7.) Qualcomm has provided MPE analysis using mathematical procedures. The output level used in the MPE analysis is equivalent to 34 dBm conducted output plus 4 dBi for antenna gain (table 3). The 731 form or EAS is indicating 4 W output (36 dBm), which is higher than the conducted output but lower than the EIRP indicated in the MPE analysis (not sure what output level is indicated in the EMC report). A clarification is needed as to what type of output does the 4 W represent (at the device or antenna terminal, ERP or EIRP?).

*The MPE analysis submitted was performed earlier in the design cycle and was intended to be and is quite conservative; the 38 dBm EIRP value used is quite high and will almost never be obtainable from a DFUT. It was intended to be a worst case value which could possibly be seen in the field (combination of maximum calibration error, maximum power out of transmitter, minimum cable loss, and maximum antenna gain). Resultant worst case use distance constraint (35 cm) was considered reasonable for Fixed UT's. (Using the more realistic value of 36 dBm EIRP, the calculated MPE distance restriction works out to 27 cm.)*

*The Globalstar Air Interface specifies a maximum allowed Fixed UT power level of 4.0 W EIRP, 2 W EIRP typical. That is what the 4.0 W Rated RF Power input means in the online Form 731 for the DFUT. For the DFUT the Rated RF Power expressed as ERP is 2.5 W ERP max, 1.2 W ERP typical. A more complete description of the RF power output of the DFUT is contained in Section 3.3 of Exhibit 1, uploaded as file E.1 General and Cert.pdf. Similar information is presented in a subsection of Section 3 of Exhibit 1 for each Globalstar UT filing.*

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>8.) The MPE report indicates instructions for users and bystanders to maintain 35 cm separation distance to satisfy MPE. The information is not found in the uploaded exhibits.

*You are correct, the MPE distance restriction statement is not contained in the uploaded User or Installation Guides. It was inadvertently omitted from the initial release guides for the DFUT, AFUT, and Car Kit and is being added in the form of an errata sheet to the initial releases of those documents and will be incorporated directly in subsequent revisions to same.*

*A copy of the draft errata sheet input (currently in the internal Qualcomm review cycle) will be added to the filing attachments and uploaded as file E.12a DFUT MPE Restrict.pdf. Similar errata sheet exhibits will also be uploaded for the AFUT and Car Kit filings.*

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>9.) After item #1 & 2 in above have been clarified and MPE distance is confirmed, the appropriate distance should be listed as a grant condition (> than 20 cm). The users manual recommends this unit for installation by trained persons, preferably from the service provider; but not a requirement (service provide installation proposed for the counter part EA94736). This one allows mounting on walls (outside) but the other one does not. There is no users manual uploaded for this one, and the other one has one. Suggested grant comment - system to be installed by (depending on response and clarification) with xx cm or more separation distance between antenna and all persons to meet MPE requirement.

*With regard to the discrepancy in users manuals between the AFUT and the DFUT, it must be recognized that the sole customers presently defined for the DFUT are the Globalstar Service Providers themselves (for use in Gateway testing) and who will receive both the obsessively detailed DFUT installation manual (which will contain the MPE distance restriction statement as discussed in Response 8 above) and the Deskset users guide. In the event that commercial/general public customers for the DFUT are identified, the user's documentation will be revised to be more like the AFUT documentation and the MPE distance restriction statement will then also appear in the currently-nonexistent DFUT user's guide.*

*Both the DFUT and AFUT installation Guides allow wall-mounting of the RAU, provided that the RAU antenna is above the roof line and has the requisite 360° horizon, 10° up sky view. See Figure 16 and succeeding text on page 19 of the AFUT Installation Guide, submitted as file E.12 80-98052-1X1.pdf in filing EA94736, and Figure 12 and succeeding text on page 16 of the DFUT Installation guide, submitted as file E.12 80-25811-1X2.pdf.*

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>The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 60 days of the original e-mail date may result in application dismissal pursuant to Section 2.917 (c) and forfeiture of the filing fee pursuant to section 1.1108.
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>DO NOT reply to this e-mail by using the Reply button. In order for your response to be processed expeditiously, you must upload your response via the Internet at www.fcc.gov, Electronic Filing, OET Equipment Authorization Electronic Filing. If the response is submitted through Add Attachments, in order to expedite processing, a message which informs the processing staff that a new exhibit has been submitted must also be submitted via Submit Correspondence. Also, please note that partial responses increase processing time and should not be submitted.
>
>Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.
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