

To: Errol Chang
FCC Application Processing Branch

From: Jim Sponsler
Date: 5-5-99

Applicant:	Ericsson Inc
Re:	FCC ID AXATR-392-A2
Correspondence Reference Number:	7603
731 Confirmation Number:	EA93434
Date of Original E-Mail:	05/05/1999
Date of original submittal:	03/05/1999

This is in response to your query on May 5, 1999 regarding the AXATR-392-A2 submittal. Mr. Chan and I have discussed and resolved the open issue. Attached are the correspondence between Mr. Chan and I for your reference. I hope this memo resolves any questions you may still have and we can receive a grant for this filing by May 7, 1999.

If you have any questions regarding this filing, please feel free to contact me.

Jim Sponsler
Jim.sponsler@ericsson.com
919-472-6460

Jim:

Attached is a copy of the comments on AXATR392-A2, which was sent to Errol on 04/16/99.



EAS 93434, Ericsson

Kwok Chan

[The above file EAS93434... is printed out below for your reference]

Errol:

***This is the Ericsson dual band, dual mode phone, EAS 93434,
AXATR392-A2 -***

- 1. They are requesting 400 mW ERP for AMPS and TDMA modes in the cellular band and 400 mW EIRP in the PCS/TDMA mode as shown on 731 form. Measured ERP for AMPS mode is 214 mW and EIRP for PCS/TDMA mode is 375 mW. Conducted outputs of around 25.48 dBm (347 mW) for the AMPS mode and 26.47 dBm (443 mW) have been indicated in different plots for other test procedures. SAR was measured at conducted output levels of around 25.6 dBm for AMPS mode, 25.5 dBm for cellular TDMA and 24.8 dBm for PCS/TDMA. These differences need to be clarified for determining the proper output ratings for the grant and the maximum ratings should not exceed those tested for SAR.***
- 2. The alignment procedures call for +26 dBm at power steps 0-2 with +/- 0.25 dB at mid-channel and +/-1.5 dB at high and low channels. The highest SAR is 1.4 W/kg (AMPS mode) which occurs at the low frequency (824 MHz). The tolerance in the alignment procedures can cause SAR to exceed the 1.6 W/kg limit. Please clarify and also indicate if the alignment procedures apply to specific operating modes or all modes.***
- 3. The clarification for 1 & 2 above will be used to determine the output ratings to be listed on the grant, which represent the maximum ratings for all production units and must satisfy RF exposure limit.***

Kwok Chan

To: Kwok Chan

From: Jim Sponsler
Date: 4-26-99

Confirmation Number: EA93434
Filing: AXATR-392-A2

This memo is in response to your email concerning the AXATR-392-A2 (EA93434) power measurements and SAR.

I recommend we change our declared power on the 731 form to: 23.3 ERP typical output power for 800 band and declare 25.7dB for the 1900 band. These values represent those in the below table. The alignment procedure needs to be revised. I will change the procedure to reflect the values shown above upon your agreement with them.

The differences between the power measurements are shown below. I believe the results are within the measurement error of testing at different locations and/or using different equipment. As shown below, the test equipment type also changed and this is due to what is available at the different locations or labs.

All results are in dBm and conducted unless noted otherwise.

Band	SAR measurement	RF output measurement (radiated)	Occupied bandwidth	Difference	Max SAR reading (w/kg)
800 MHz	25.6	23.3*	25.48	0.16	1.4
1900 MHz	24.8	25.7	26.4	1.6	.805
Test equipment / lab	Power meter/ RTP** SAR lab	EMI receiver/ Lynchburg OATS site	Spectrum analyzer/ RTP** Verification Lab		

* This value represents EDRP= EIRP-2.14; if you add the 2.14 to the value above then the result is 25.44.

** RTP is the abbreviation for Research Triangle Park, NC

The EMI receiver and the Spectrum Analyzer are not as accurate as the power meter in measuring the output power for DAMPS. The DAMPS mode is digital and operates in a burst mode. The EMI receiver and Spectrum analyzer both capture the peak value and not the true power as measured by the power meter.

Below is a copy of the memo from Kwok Chan to Errol Chang.

Thanks for your assistance and have a good day.

Jim Sponsler

Jim:

Regarding the response you have in the following e-mail:

1. An output rating of 215 mW ERP (23.3 dBm) for the AMPS and DAMPS modes are O.K. for SAR. The peak conducted output reported in the SAR report for AMPS and DAMPS modes are very similar. I do not have a problem listing 215 mW ERP for both AMPS and DAMPS mode on the grant, even though, there is no ERP data for DAMPS mode. However, it will be Errol's decision if ERP data for DAMPS mode is needed for other than SAR purposes.
2. For the PCS/TDMA mode, peak conducted output of 302 mW (24.8 dBm) is reported in the SAR report and the peak conducted output indicated in the occupied bandwidth plot is around 26.4 dBm. There is a discrepancy of about 1.6 dB. The measured EIRP is 25.7 dBm. The device has an indicated nominal peak output rating of 25.0 dBm. If no additional measurement data is received to clarify these discrepancies, we would consider using a maximum rating of 325 mw EIRP (25.1 dBm) for the grant. This represents the

average of 24.8 dBm used in SAR, the rated device nominal peak conducted output of 25.0 dBm and the measured 25.7 dBm EIRP. Using this average value as grant rating is also supported by the SAR data. The conducted output of 26.4 dBm used in the occupied bandwidth plot is suspected to be in error, therefore, has been ignored here.

Errol has to determine that 215 mW ERP for AMPS and DAMPS modes and 325 mW EIRP for PCS/TDMA are satisfactory for other than RF exposure purposes. The revised alignment procedures must also satisfy these maximum ratings.

John: I did not receive any e-mail from you regarding yesterday's phone call on Mobile/ MPE questions. We had e-mail problems all day yesterday.

Kwok Chan