

To: FCC Reviewer

From: Richard King  
Certification Department Coordinator  
Elite Electronic Engineering

Clarification of RF exposure requirement from Terion:

The attached document contains an analysis (originally written by Jim Roesch and modified for our current situation by Rue Hestand) of the ERP (Equivalent Radiated Power) of our cab product. This analysis was done using an 8' whip antenna on a tractor (large semi-truck), which is how the application is being used. The only difference now is that the antenna we use is 7.25' long. The current antenna is a little less efficient across most of the band (3 to 21 MHz) and a little more efficient at the higher end (21 to 25 MHz). For all practical purposes it's roughly the same except its resonant frequency (most efficient frequency) is around 22 MHz instead of 20 MHz.

A brief summary:

Maximum transmitted power is about 0.5 W.  
Average transmitted power is about 0.2 W (this implies we could increase our transmit power by a factor of 5, from 10 W to 50 W, or somehow decrease our losses by a factor of 5, and we would still meet our ERP requirement).

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Question to Rich Fabina at the FCC Lab.

To: FCC Lab

From: Richard King  
Certification Department Coordinator  
Elite Electronic Engineering

In reference to a request to certify a Terion HF (14MHz) mobile messaging service primarily targeted to over the road transportation assets or heavy-duty vehicles. The Terion mobile messenger is a \*mobile\* transceiver mounted in the cab of the truck with either a 7\* or 11\* coaxial cable extending to the rear of the cab or the side mirror where a whip antenna is mounted. The mobile messenger has received certification by the commission under FCC ID number OH6-4123DHFM on 07/30/1999. A board change to the mobile messenger has increased its power output at the amplifier to 10 watts from its original power output at the amplifier of 5.75 watts. The EIRP of the

mobile messenger is 100mW. The TCB exclusion list dated December 18, 2000 for categorically excluded mobile transmitters identified in the 2.1091 with an EIRP that does not exceed 1.5W at a frequency of less than 1.5GHz qualifies for TCB approval. We are seeking confirmation that the above device can in fact be certified because of the EIRP radiated power being 100mW.

Answer from FCC:

Rick,

The modified device will require a new FCC ID number. The grant for the original device lists 5.75 Watts as the maximum output power. It does not list 100 milliwatts anywhere on the grant. Therefore, a grant that would show 10 Watts maximum output power would require a new FCC ID number as specified in Section 2.1043 of the FCC Rules.

Use the TCB exclusion list, under Transmitter Category column the heading III) Mobile Transmitters identified in Section 2.1091, to determine if this transmitter can be approved by a TCB. The transmitters in Exclusion list column b), c) and d) do not apply to this transmitter. So the question becomes, does this transmitter satisfy a) under this heading. I believe the answer to this will answer your second question.

I trust that this has responded to this inquiry.

Rich Fabina

Thank you in advance for your help.

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