



Date: August 9, 2000.

Authorization and Evaluation Division
Federal Communications Commission Laboratory
7435 Oakland Mills Road
Columbia, MD 21046

Att: Errol Chang and Kwok Chan.

Subject: Response to correspondence number 15361 dated 08/02/2000, confirmation number EA97158, for FCC ID: AZ492FT1627.

Gentlemen:

Q1. EA 97158 transmits in the 29.7-36 MHz band using a 104 cm long quarter wave base loaded 0 dBd antenna (RAB 4002A). EA 97167 transmits in the 36-42 MHz band using a 118 cm long quarter wave base loaded 0 dBd antenna (RAB 4003A). Identical SAR test results, at 35 MHz, have been submitted for both filings. Please confirm which antenna was used during the SAR tests and provide supporting info for verifying that the SAR results are applicable to both antennas.

A1. Please refer to Motorola technical report titled "Low Band Mobile Unit (Antenna) Report: SAR Measurements dated 08/09/00. Within the limit of the laboratory setting, the maximal SAR is two orders of magnitude lower than the peak SAR limit for the uncontrolled environment. Based on this substantial margin below the limit and our years of expertise, we are convinced that these results are applicable for Motorola mobile radios operating in the 25 to 50 MHz band with power levels up to 110 watts and with various quarter wavelength antennas of the appropriate length for the particular operating frequency. Therefore, although the SAR test was done with quarter wave antenna RAB 4002A operating in the range of 29.7 -36 MHz, the SAR results can be applied to 36-42 MHz quarter wave antenna RAB4003A.

Q2. The radio operator is responsible for maintaining a separation distance of 3 feet between the antenna and bystanders for satisfying RF exposure compliance. This requires the radio operator to have control of the exposure conditions of bystanders. The procedures for Occupational/Controlled Exposure Environment are applicable and should be explained in the users manual, or through specific training, to alert users about the operating restrictions and their responsibility. Please revise manual accordingly or provide other effective means to ensure Occupational/Controlled Exposure Requirements are met.

Note: Output is 72 W conducted.

A2. The provided user manual provides adequate instructions to the operator to transmit only when people outside the vehicle are a minimum of 3 feet distant from the antenna. The referenced technical report indicates at 3-ft distance, there is a substantial SAR safety margin for bystanders in the uncontrolled environment.

We trust that the above information satisfies your requirements. Please contact me at (954) 723-5793, if you require any additional information.

Sincerely,

Mike Ramnath.
FCC Liaison.
Email: emr003@email.mot.com

FCC ID AZ492FT1627

Applicant:	Motorola Inc
Correspondence Reference Number:	15361
731 Confirmation Number:	EA97158
Date of Original E-Mail:	08/02/2000

1. EA 97158 transmits in the 29.7-36 MHZ band using a 104 cm long quarter wave base loaded 0 dBd antenna (RAB 4002A). EA 97167 transmits in the 36-42 MHZ band using a 118 cm long quarter wave base loaded 0 dBd antenna (RAB 4003A). Identical SAR test results, at 35 MHZ, have been submitted for both filings. Please confirm which antenna was used during the SAR tests and provide supporting info for verifying that the SAR results are applicable to both antennas.

2. The radio operator is responsible for maintaining a separation distance of 3 feet between the antenna and bystanders for satisfying RF exposure compliance. This requires the radio operator

to have control of the exposure conditions of bystanders. The procedures for Occupational/Controlled Exposure Environment are applicable and should be explained in the users manual, or through specific training, to alert users about the operating restrictions and their responsibility. Please revise manual accordingly or provide other effective means to ensure Occupational/Controlled Exposure Requirements are met.

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Proposed Grant Conditions - RF exposure compliance was determined in vehicle-mount antenna configurations with respect to controlled MPE limit for vehicle occupants and uncontrolled SAR limit for bystanders at an equivalent separation distance of 3 feet from a 0 dBd base-loaded quarter-wave antenna. The operation of this transmitter must satisfy the requirements of Occupational/Controlled Exposure Environment, for work related use only. Qualified end-users of this device must have the knowledge to control the exposure conditions of bystanders to ensure a minimum separation distance of 3 feet is maintained between the antenna and persons outside of the vehicle for satisfying RF exposure compliance. For other fixed-mounted operations, the antenna must be installed to provide a separation distance of at least 3 feet from persons to ensure compliance. Grantee must provide end-users with specific instructions for meeting Occupational/Controlled Exposure Environment requirement!

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The highest reported SAR value at 3 feet from the antenna is 0.02 W/kg.