



**MOTOROLA**

**FCC ID: ABZ99FT3042**

Date: September 24, 2001

Authorization and Evaluation Division  
Federal Communication Laboratory  
7435 Oakland Mills Road  
Columbia. MD 21046

Att: Linda Elliott or Joe Dichoso

Subject: Class II Permissive Change request for Type Accepted Transmitter  
with FCC ID: ABZ99FT3042

We are requesting a Class II Permissive Change to the above referenced transmitter. The final stage (Q104) of the transmitter RF power amplifier has been replaced with a new active device.

**The changes include:**

- Q104 device replacement from Bipolar transistor, Motorola Part # 48-82233P54 to LDMOS FET transistor, Motorola Part # 48-13828A08.
- Input and output matching changes to accommodate the different impedance.
- Heat sinking modifications to allow heat transfer from new transistor.
- PC board modifications for device and matching differences.

All other parameters of the radio are unchanged. There are no added options, changes in rated power, or customer perceived changes. The radio, after the change, will be subject to all the same specifications and regulation of the radios prior to the change.

Since no change was made in the transmitter output power, antenna assembly or the configuration and assembly of the unit, RF exposure did not degrade. Accordingly, we affirm that there is no increase in SAR for all operating modes and configurations, for body-worn or hand-held use, with respect to all previous filings for this FCC ID number.

**Reason for Change:**

- Cost reduction: the current bipolar part costs \$10.50, whereas the LDMOS FET transistor costs \$2.55.
- Increased power margin.



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- The LDMOS transistor was designed specifically for VHF hand-held applications.
- The bipolar transistor was designed for 800-900 MHz mobile radio applications.



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**General Information:**

Bipolar transistor specifications (Motorola Part # 48-82233P54):

- 15 Watt transistor
- 12.5 Vdc Source
- 870 MHz
- 7 dB Gain
- 60 % efficiency

LDMOS FET transistor specifications (Motorola Part # 48-13828A08):

- 8.0 Watt transistor
- 7.5 Vdc Source
- 175 MHz
- 11.5 dB Gain
- 55 % efficiency

**Supplied Data:**

The data supplied with this permissive change request consist of data that was affected by the change to the LDMOS FET device. Please refer to the enclosed Exhibit 1.

Contact Jim Zima at (847) 576-3697 or [jim.zima@motorola.com](mailto:jim.zima@motorola.com) if you require any additional information.

Sincerely,

Donna Tokarz.  
FCC Liaison  
Fax (847)576-7245



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