



9th October 2001

Mr. Andy Leimer
Authorization & Evaluation Division
Federal Communications Commission Laboratory
7435 Oakland Mills Road
Columbia, MD 21046

Re: Form 731 Confirmation Number: EA101909 with FCC ID: AZ489FT4850.

Dear Mr. Leimer;

Motorola Inc., 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322, herein submits its response to the 4th October 2001 request for information in Correspondence Number 20827.

Q1. Confidentiality is requested for the Internal Photos. This cannot be done since this is public information once the device is marketed. Please submit a signed letter waiving the original request for confidentiality of the internal photos.

R1. We are submitting an amended Exhibit 13a waiving the original Request for Confidentiality of Exhibit 9, Internal Photos.

Q2. The schematics are unreadable. Please resubmit them in a clear readable format.

R2. Reformatted Schematics are submitted under Exhibit 5.

Q3. Please submit an exhibit showing an informational insert inside the box (product package) that clearly informs the consumer (buyer/owner) when the radio is transmitting on GMRS frequencies, that operation on GMRS frequencies requires an FCC license and such operation is subject to additional rules specified in 47 C.F.R. Part 95.

R3. The informational sheet is submitted as Exhibit 8a, supplemental information for the Users Manual.

Q4. The power output ERP is calculated from the conducted power and average measured antenna gain. The measured antenna gain is based on an infinite ground plane. This is not equivalent to the actual antenna gain when the antenna is mounted on the device. The device itself will provide a totally different ground plane. Upload an exhibit with the measured ERP for both FRS and GMRS modes using the substitution method. Note that the GMRS ERP cannot exceed 600 mW as explained in the FYI below).

R4. ERP data for both FRS and GMRS modes are submitted as Exhibit 6a using the Substitution Method. A fully assembled radio with the antenna attached was used for measuring ERP for the FRS and GMRS modes.

Q5. The test report shows emissions masks, transient response and radiated emissions limits for a Part 90 device. It is my understanding that this device is a combined FRS (Part 95B) and GMRS (Part 95A) device. Please verify this.

R5. This is a Part 95A and Part 95B device. Please ignore all Part 90 related information.

Q6. The Audio Response plot shows curves for "data", "high spec", and "low spec." Please define these terms.

R6. An updated Exhibit 6B of the Audio Response plot is submitted with the terms "data", "high spec", and "low spec." defined. Data is the Audio Frequency response, High Spec. is the Upper Spec. Limit as defined in TIA/EIA SP-2218 Section 5.2.6.2 and the Low Spec. is the Lower Spec. Limit as defined in TIA/EIA SP-2218 Section 5.2.6.2.

Q7. The Operation Description does not explain how the power is controlled between the FRS and GMRS modes. Explain how this is done.

R7. This transceiver operates on both the General Mobile Service (GMRS) and Family Radio Service (FRS) frequencies. The radio will provide 1.0 Watt conducted when transmitting on GMRS frequencies (462.5500-462.7250 MHz) and no more than 0.5 Watt ERP on FRS specific frequencies (467.5625-467.7125 MHz).

See the Frequency Table below for this Radio.

Channel 1: 462.5625 MHz (GMRS 1W)
 Channel 2: 462.5875 MHz (GMRS 1W)
 Channel 3: 462.6125 MHz (GMRS 1W)
 Channel 4: 462.6375 MHz (GMRS 1W)
 Channel 5: 462.6625 MHz (GMRS 1W)
 Channel 6: 462.6875 MHz (GMRS 1W)
 Channel 7: 462.7125 MHz (GMRS 1W)

***Channel 8: 476.5625 MHz (FRS 0.5W)**
***Channel 9: 467.5875 MHz (FRS 0.5W)**
***Channel 10: 467.6125 MHz (FRS 0.5W)**
***Channel 11: 467.6375 MHz (FRS 0.5W)**
***Channel 12: 467.6625 MHz (FRS 0.5W)**
***Channel 13: 467.6875 MHz (FRS 0.5W)**
***Channel 14: 467.7125 MHz (FRS 0.5W)**

Channel 15: 462.5500 MHz (GMRS 1W)
 Channel 16: 462.5750 MHz (GMRS 1W)
 Channel 17: 462.6000 MHz (GMRS 1W)
 Channel 18: 462.6250 MHz (GMRS 1W)
 Channel 19: 462.6500 MHz (GMRS 1W)
 Channel 20: 462.6750 MHz (GMRS 1W)
 Channel 21: 462.7000 MHz (GMRS 1W)
 Channel 22: 462.7250 MHz (GMRS 1W)

*** FRS specific frequencies only.**

The T6400 radio will not be user programmable. The RF power output level of the T6400 radio will be electronically tuned in the factory and cannot be adjusted by any other means. The associated tune value is stored in a radio internal memory location (code plug).

The radio will be tuned as follows: For FRS operation, the automated test system first measures the conducted RF output power on FRS channel 11 (Freq = 467.6375 MHz) and at 4.5VDC +/- .005VDC. If the power is within the tune window of 500 to 550mW a default code plug value is used. If the power measured is higher than 550mW the test system reduces the default codeplug value until the power is within the tune target. If the power measured is lower than the 500mW,

the test system increases the default code plug value until the power is within the tune target. This new code plug value will now become the default power setting for this particular radio and used on the FRS specific frequencies on channels 8 to 14. Modification to the radio codeplug is not possible without access to Motorola proprietary information of the codeplug bitmap, programming software, and hardware, which are for Motorola internal use only at the manufacturing facilities.

For the GMRS frequencies, the conducted RF output power is controlled to 1.0 Watt by Motorola proprietary software developed specifically for this family of radios. The automated test system selects a GMRS channel and the radio software sets the power control voltage on the RF power amplifier (PA) to it's maximum setting. The RF PA is limited to 1.0-Watt maximum conducted power by the performance capabilities of the final stage device and it's topology. The factory measures the RF power on GMRS channel 4 (Freq = 462.6375 MHz) to assure 1.0 Watt is obtained.

Once the radio is properly tuned and assembled with the antenna, it then undergoes a full system test. The power output is again verified on both the GMRS and the FRS channels to assure that the radio functions properly.

Since the GMRS and FRS channels are preprogrammed in the radio's microprocessor and not adjustable by the user, it is not possible for the user to re-set the power levels for the GMRS or the FRS channels.

Contact me at (954) 723-5793 if you require any additional information.

Regards,

/s/ Mike Ramnath

FCC Liaison

Email: mike.ramnath@motorola.com