MOTOROLA

Date: July 10, 2001

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

Re: Form 731 Confirmation Number: EA101101 with FCC ID: AZ489FT5807.

Dear Mr. Dayhoff;

Motorola Inc., 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322, herein submits its response to your June 20th, 2001 request for information on FCC ID: AZ489FT5807, EA101101 via correspondence number 19702.

R1. The substitution method measurement procedure described has been used for several applications commencing with the grant to AZ489FT5799. It is a variation of that used in FM radio standardsTIA/EIA-603 and TIA-102.CAAA in that an RF Anechoic chamber is used for the Standard Test Site. A consideration not covered in the TIA standards, unique to the TDM modulation employed by this radio product, is that the signal strength measuring equipment does not have the capability of properly measuring pulsed signals during turntable rotation. This was obviated by placing the radio into a special test mode using continuous wave (CW) transmission, which is inherent in the cited TIA standards. The Measured ERP so determined is evident is steps a through e of Exhibit 6.7.

Since the heat sinking in the radio does not support CW operation, the test specimen is operated at reduced power to enable most accurate measurement. Scaling the Measured ERP listed in step e by the ratio of maximum rated power to measured test power is required to determine Maximum Calculated ERP. This is mathematically evident in steps f through h of Exhibit 6.7, and is akin to the methodology used to determine Maximum Calculated SAR.

The procedure in TIA/EIA-603 clause 2.2.17 Average Radiated Power Output uses an angular rotation resolution of 45 degrees. This resolution has been found to be insufficient to determine the maximum ERP (e.g. - see the Exhibit 6.7 detailed data in the range between 120 and 130 degrees wherein a variance of about 33 milliwatts is observed). While reviewing the detailed data an error was noticed at the end of the first paragraph. The maximum was observed at a rotation of 124 degrees, not 262 degrees, so Exhibit 6.7 (Revised) is attached to correct this discrepancy.

R2. Unfortunately there were several inaccuracies in the preliminary manual submitted as Exhibit 8 that were attributed to editing the manual of another product to generate the manual for this product, so a corrected manual is attached as Exhibit 8 (Revised). One of these discrepancies was the illustration of the tested swivel belt clip (NTN1824) that previously was not correctly shown. We do not include all accessories in the manual and for that reason the tested leather case was not included in either version.

R3. Table 3 in the users manual of Exhibit 8 (Revised) has been corrected to list the batteries that will be supplied. Also, corresponding changes were made in paragraph 12.2.A.1 in attached Exhibit 12 (Revised).

Two of these batteries are also listed in paragraph 3 of the SAR report and these are the fundamental battery packages. Additional variations were listed in Exhibit 12 because of color variations, and label language variations. It has been decided to eliminate the Titanium color in favor of Champagne, and the Spanish and Portuguese language variations will be consolidated into a dual language version (the English version has not changed). Thus the 12 variations have been reduced to 4 that represent a color change and labeling variations of the two batteries listed in the SAR report.

R4. The description of the flat phantom was provided in section 4.2.1 of the SAR report; a picture of the flat phantom from several different perspectives is included as attached new Figure 2b. The 2.5 cm distance, as described in the note below Figure 2 of the SAR report, is the distance from the microphone area of the radio to the phantom surface; the reference is the same phantom surface used for dimensions A, B, and C. Figure 2a is provided which shows the 2.5 cm distance from the phantom to the microphone area of the housing.

R5. Section 3.0 of the SAR report describes the maximum TDMA duty factor for each of the three modes: 16.67% for two-way dispatch (face), 33.3% for phone operation (side of head or abdomen), and 67.5% for data operation (abdomen). As described in section 5.0 of the SAR report all tests were completed while the unit was operating in 16.67% mode. The duty factors applicable for the “test configuration” and “operating configuration” modes are additionally indicated in the tables presented in Section 7.0 of the SAR Report.

Example:

Test Freq. (MHz)	Ant Pos	Initial Cond. Power (W)	dB drift from initial power @ end of SAR (W)	Highest Measured SAR		Max Calculated SAR	
				Left Ear (16.67%)	Right Ear (16.67%)	Left Ear (33.33%)	Right Ear (33.33%)

Maximum duty cycle for phone mode at side of head

R6 This product offers two body attachment systems: one swivel belt clip and one leather case / belt clip combination. All antenna positions, batteries and accessories listed in section 3.0 of the SAR report, including the leather case, were tested as stated in Section 5.0 of this report. For example, SAR was examined at the middle of the band with the antenna retracted for each of the two body attachment systems with the results as indicated in the table below; the body attachment system providing the highest SAR, swivel belt clip (NTN1824A), was then selected for additional testing over frequency, antenna configuration, type of accessory cable, etc.

The highest measured SAR results were then summarized in the third table of SAR report section 7.0.

Body Worn Test Configuration	**Test freq (MHz)**	**Antenna Position**	**Meas. SAR (mW/g)**
Swivel belt clip (# NTN1824A)	813	IN	0.18
Leather case/belt clip (# NTN1823A)	813	IN	0.13

R7. Correct SAR values and FCC ID are now listed in the Safety and General Information section of the manual in Exhibit 8 (Revised).

A discrepancy in our model number also was discovered and it has been changed. Exhibit 1 (Revised) is attached which shows the correct model number.

We trust this provides adequate clarification. Contact me at (954) 723-5793 if you require any additional information.

Regards,

/S/ Mike Ramnath
Mike Ramnath
FCC Liaison

Email: emr003@email.mot.com

Attachments:
Exhibit 1 (Revised)
Exhibit 3 (Revised)
Exhibit 6.7 (Revised)
Exhibit 8 (Revised)
Exhibit 12 (Revised)
Exhibit 11 Figure 2a
Exhibit 11 Figure 2b

Figure 2a: Views of the Flat phantom setup

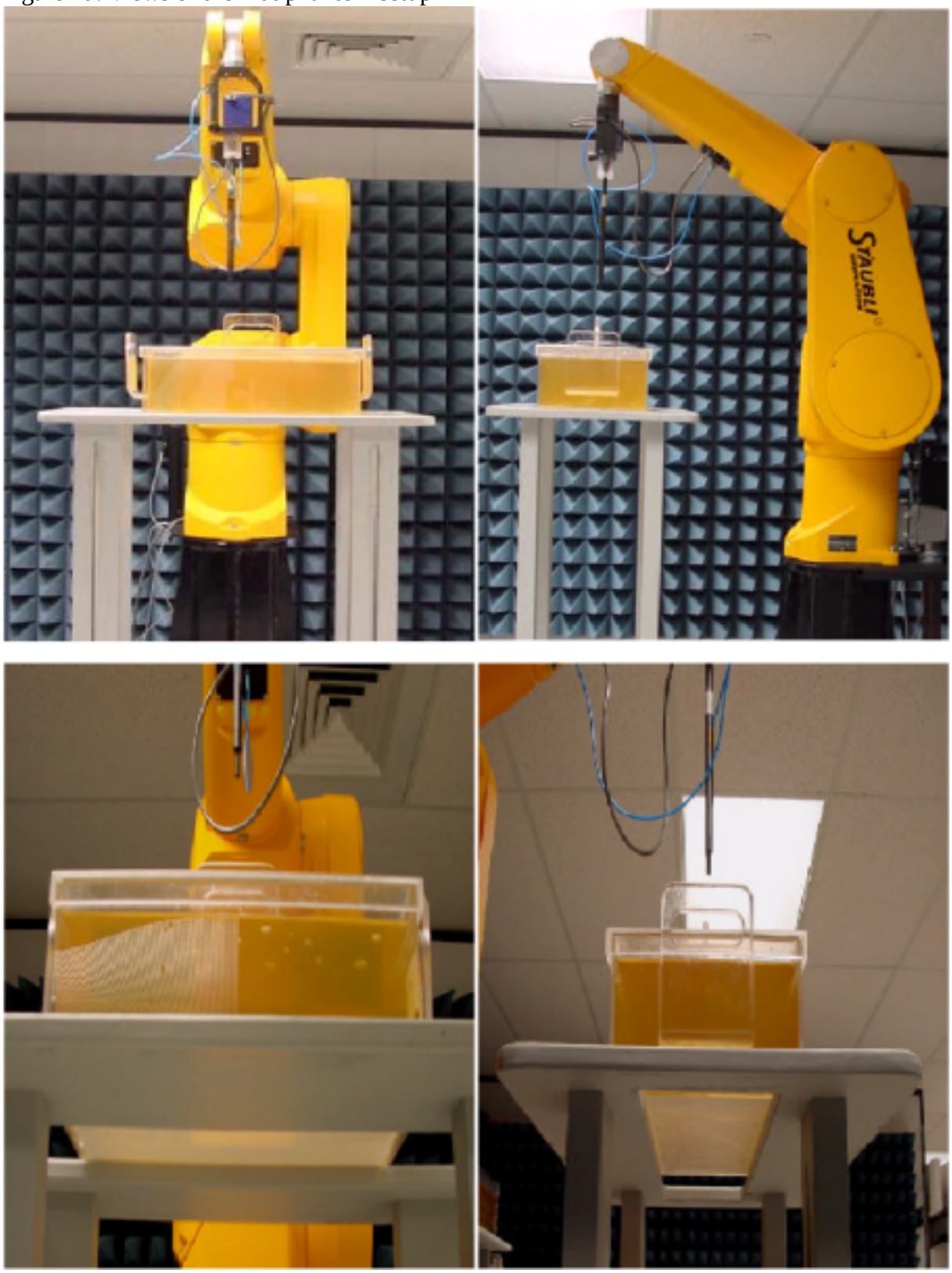
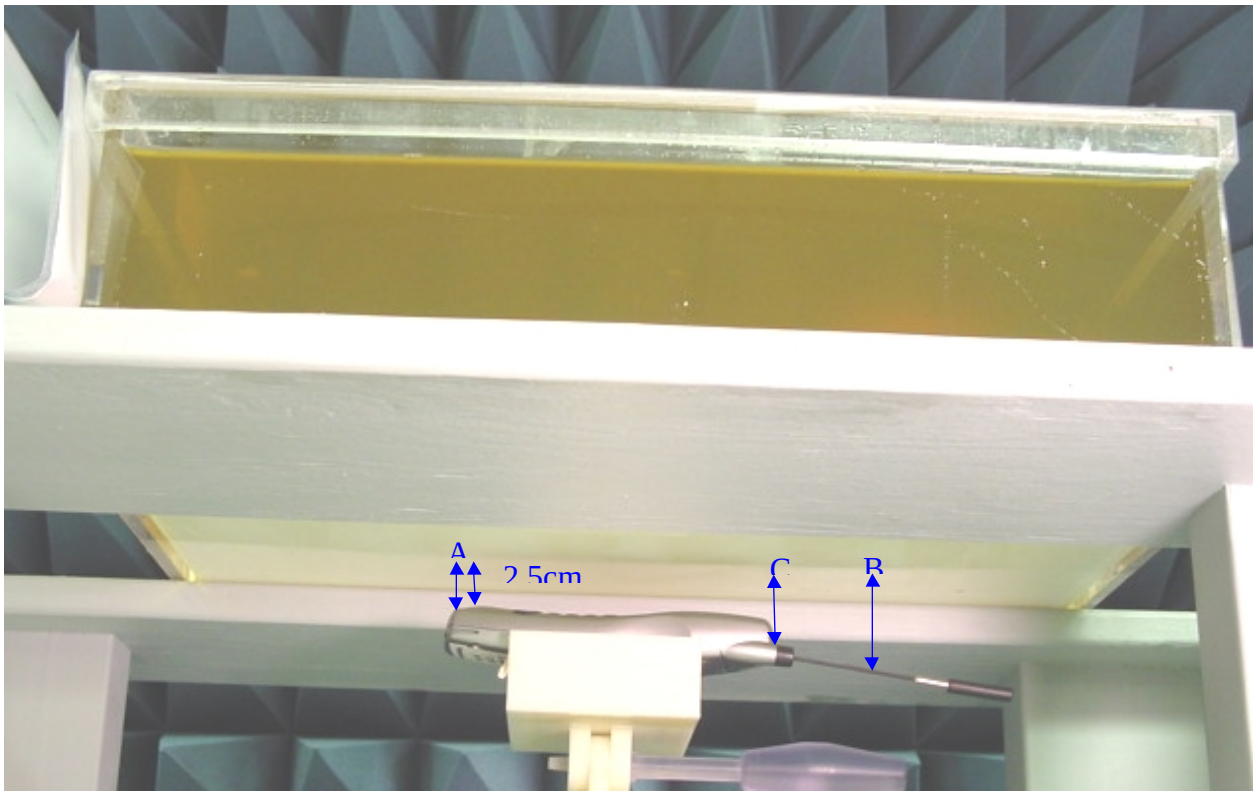


Figure 2b: Facial position



DIM A = Distance from center of antenna surface to phantom = 47 mm

DIM B = Closest distance between bottom of radio to phantom = 29 mm

DIM C = Closest distance between base of antenna to phantom = 39 mm