MOTOROLA

8th November 2001

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

Re: Form 731 Confirmation Number: EA102194 with FCC ID: AZ489FT4851.

Dear Mr. Perrine;

Motorola Inc., 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322, herein submits its response to the 7th November 2001 Correspondence Number 21183.

Q1) Justification for authorization of the two models mentioned in this filing, each having a distinct power level, to be issued under one FCC ID. CFR 47 Section 2.1043(a) requires that radios having different maximum power outputs must have separate ID's. Since the power is set at the factory and each unit has a fixed power level (either 1 W or 2 W) the FCC considers these two separate radios and thus requires two FCC ID's. It was noted from the circuit description in your exhibit 4D that the PA matching output components are different for the two maximum power levels.

If you agree, please specify which maximum power level you would like to have filed on this

R1) With respect to the possible use of two FCC ID numbers, Exhibit 4 may be confusing. In fact, the PA matching output components are not different for the two maximum power levels. If one were to look at the boards of the two radios, from a hardware standpoint, the circuits are identical. The difference in the models is simply in the way the radios are adjusted during manufacturing. For that reason, we provided data at both power levels.
We regret any confusion that Exhibit 4 caused, but the approach we propose really does not result in two different devices.
In the past, the Commission has routinely approved radios in which the user could change the output power. Similarly, we have had radios approved in which the manufacturer could select the output power from the powers specified on the grant of equipment authorization, but the user could not change the output power. The application under review is an example of the latter. Because this unit is one radio, we respectfully ask that if be approved with a note on the grant explaining that the power is factory set at either one watt or two watts. Such a condition should eliminate any confusion as to the nature of the device.

Q2) Sample calculation for your response to question 4 in your correspondence dated 2nd November 2001.

R2) As discussed, the following is sent to you as an “FYI” because the response provided to the FCC in Correspondence 20994 was based on a misinterpretation of Question 4 as asked. Please see the sample calculation of the Average Radiated power in the table below. The measurement unit for the “Corrected Amplitude” column was incorrect in the data sent previously and should have been in mW instead of dB.

Average Radiated Output Power

s/n: 158ABQ0834
model: XU2600

Technician:Bill Quigley
Date: 10/23/2001

Frequency: **464.5625 MHz**
Receive Ant:
Sub. Ant:

Sig. Gen Out (dBm):	0
Cable Loss (dB):	7.54
Tx Ant. Gain Vpol (dBd):	-1.05
Tx Output (dBm):	-8.59
Analyzer Reading (dBm):	-40.06
Tx Pathloss (dB)	-31.47

Horizontal Polarization

Azimuth (Deg)	Amplitude (dBm)	Corrected (mW)
0	-10.03	139.32
45	-13.99	55.98
90	-24.45	5.04
135	-11.5	99.31
180	-9.52	156.68
225	-13.89	57.28
270	-30.03	1.39
315	-12.4	80.72
Avg. Rad. Power (dBm)		27.75034

Vertical Polarization

Azimuth (Deg)	Amplitude (dBm)	Corrected (mW)
0	-8.15	214.78
45	-6.13	341.98
90	-6.89	287.08
135	-6.4	321.37
180	-8.48	199.07
225	-6.37	323.59
270	-7.04	277.33
315	-6.17	338.84
Avg. Rad. Power (dBm)		33.625

Hpol
Avg. Rad. Pow. (dBm): 27.75034

Vpol
Avg. Rad. Pow. (dBm): 33.62491

Sample calculation (Vertical Polarization) :

Amplitude at 0 Deg = -8.15 dBm

Corrected Amplitude = -8.15 dBm – (Tx Pathloss) = -8.15 – (-31.47) = 23.32 dBm
= 10^(23.32/10) mW = **214.78 mW**

Avg. Rad Power = sum of the 6 corrected amplitude from 0 – 315 Deg. (expressed in dBm)
= 10x log (**214.78**+341.98+287.08+321.37+199.07+323.59+277.33+338.84)
= (10x log 2304.04) dBm = **33.625 dBm**

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

Regards,
/s/ Mike Ramnath
FCC Liaison
Email: mike.ramnath@motorola.com