

REPLY TO CORRESPONDENCE REFERENCE NUMBER: 22775FCC ID: **ABZ99FT3080**Form 731 Confirmation Number: **EA216745**

HT1250•LS+ 200 MHz Portable Radio

April 17, 2002

Motorola Inc. herein submits its response to the May 2, 2002 request for information in Correspondence Number 22775.

Q1.) Please submit internal photos with all shield removed.

R1.) The requested photos are attached as follows:

PAGE 3 – *Figure 1* - View of Circuit Board As Shown in Exhibit 9 Sheet 1 of 2
With All Shields Removed

PAGE 4 – *Figure 2* - View of Circuit Board As Shown in Exhibit 9 Sheet 2 of 2
With All Shields Removed

Q2.) The rule part in the line items Tech Specs were blank. You have three line items in Tech Specs. Please specify the rule parts for each line item. Note: 217-220 MHz is authorized for telemetry in Part 90. This device is PTT. Please explain.

R2.) There was a typographical error made in the first line item entry of the frequency ranges in Item 13 of the 731 Form. We apologize for the error. The frequency ranges we are requesting in this application, with the applicable FCC Rule Part for each range, are as follows:

Frequency Range	FCC Rules Part	Power	Tolerance	Emissions
217 – 218 MHz	80 and 90	5.5 Watts	+2.5 ppm	11K0F3E
219 – 220 MHz	80 and 90	5.5 Watts	+2.5 ppm	11K0F3E
220 – 222 MHz	90	5.5 Watts	+2.5 ppm	11K0F3E

We are not requesting telemetry operation in the 218-219 MHz band.

Q3.) Test report used emission mask 90.210(d) . Please resubmit all bandwidth plots using emission mask 90.210(f).

R3.) In accordance with FCC Code of Federal Regulations Title 47, Part 90.733 (e), this equipment utilizes authorized contiguous 5 kHz channels which are combined to form wider channels suitable for the operation of 12.5 kHz channel spacing equipment. It was demonstrated to the Commission's satisfaction, in a meeting on December 6, 2001, that the interference level to adjacent 5 kHz users from our equipment was less than or equal to interference from another adjacent 5 kHz user, when operated in accordance with our intended channel implementation, which includes the use of "guard channels" as well as geographic considerations to prevent interference. This satisfies the requirement of meeting the emissions limit of 90.210(f) at the outermost edges of contiguous channels. A summary of the report which was presented to the Commission is attached as follows (this report has been amended to include details identifying the emissions masks for 5 kHz and 12.5 kHz users, which had been conveyed verbally):

PAGES 5-6 – Relative Adjacent Channel Interference Levels

Because our equipment operates at 12.5 kHz channel spacing with a maximum deviation of ± 2.5 kHz and a necessary bandwidth of 11.0 kHz as calculated in Exhibit 4(F), the supplied occupied bandwidth data was submitted using emissions mask 90.210(d), as is appropriate for this type of modulation.

Q4.) You submitted data for high and low power. Is the power switchable or variable.

R4.) The power is switchable between two factory-preset power levels. The Programming Software available to the Dealers allows the power level of each channel to be programmed to "Low Power" (1 watt) or "High Power" (5.5 watts) only.

For questions **Q5.) - Q8.)**, and our responses **R5.) - R8.)**, please refer to the attached document [Reply to 22775 Part 2](#).

Please contact me at (847) 576-3697 if you require any additional information.

Sincerely,

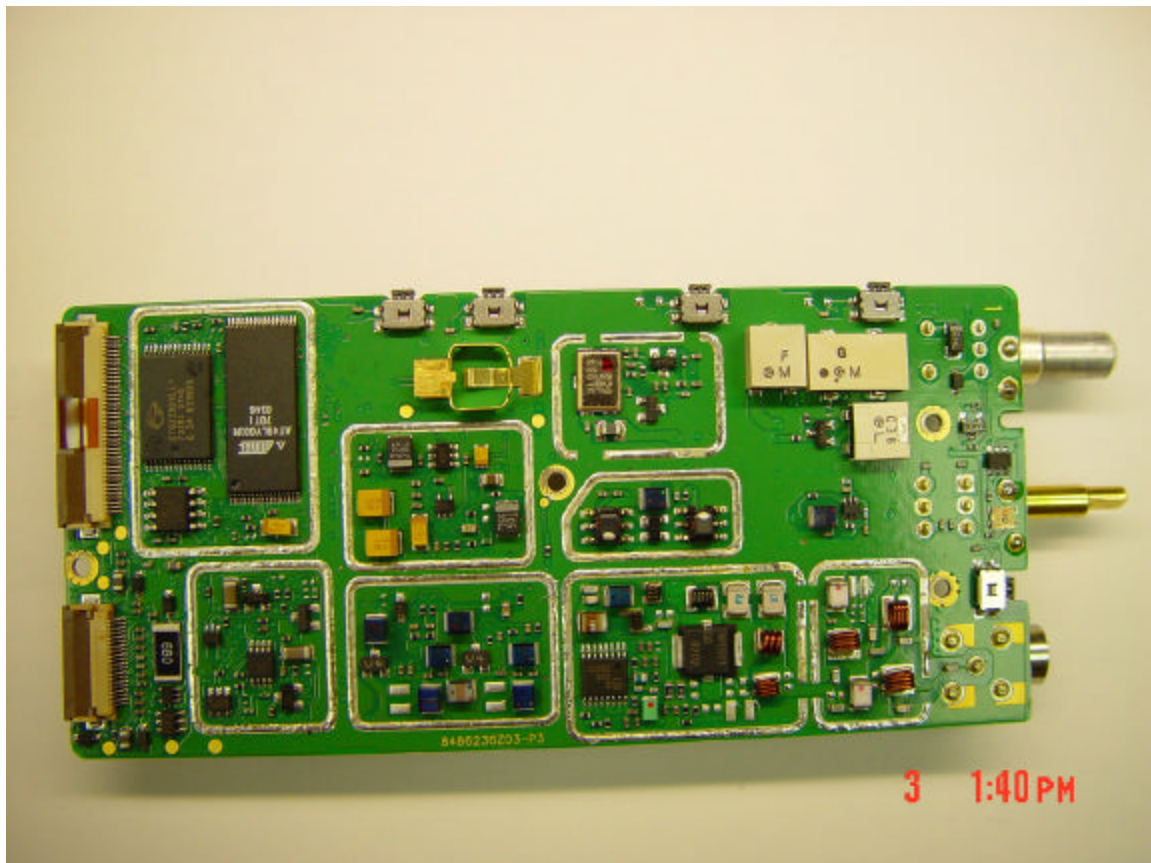


James M. Zima

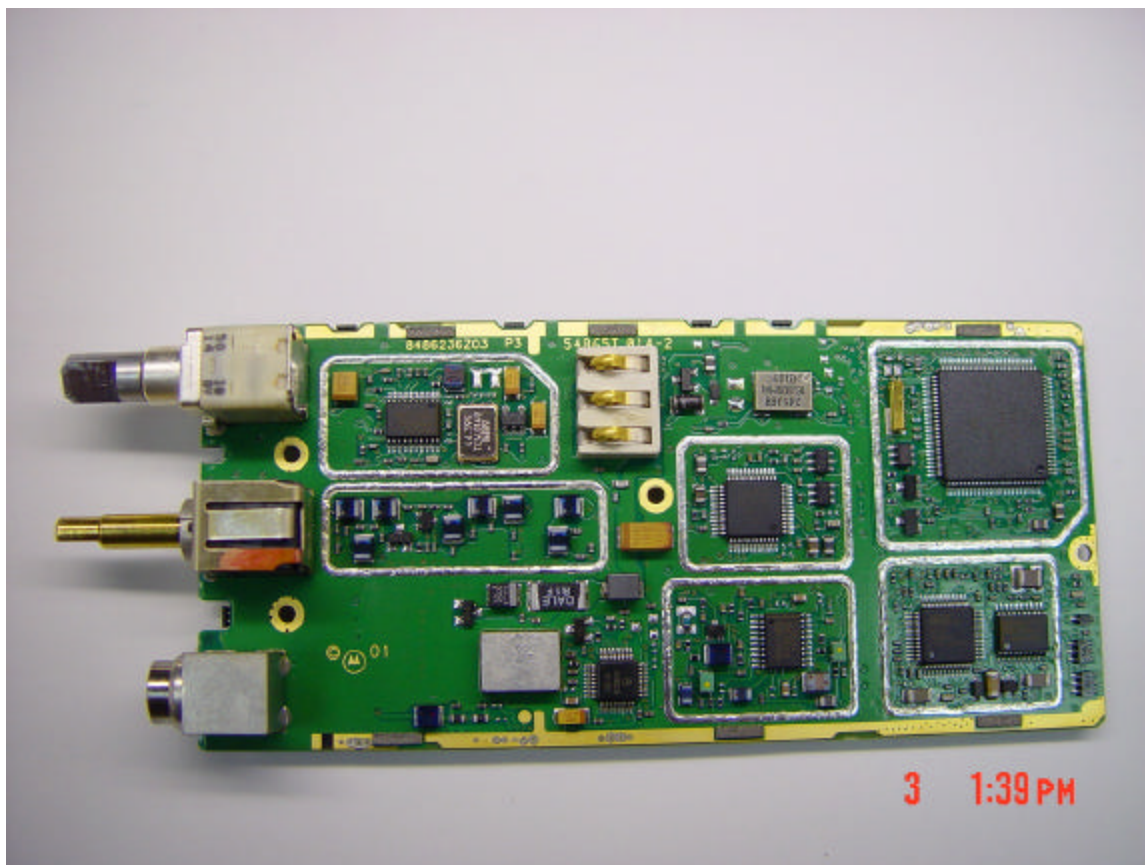
Principal Staff Engineer
Phone: (847) 576-3697
FAX: (847) 538-4312
Email: jim.zima@motorola.com

Attachments:

[IEEE-DosiProbes.pdf](#)
[SARremindersheet.doc](#)
[Reply to 22775 Part 2](#)



*Figure 1 - View of Circuit Board As Shown in Exhibit 9 Sheet 1 of 2
With All Shields Removed*



*Figure 2 - View of Circuit Board As Shown in Exhibit 9 Sheet 2 of 2
With All Shields Removed*

RELATIVE ADJACENT CHANNEL INTERFERENCE LEVELS
(Refer to Graphical Representation on Following Page)

(A) Two Adjacent 5 kHz Users

(each 5 kHz user represented by emissions mask D)

center frequencies:	-2.5 kHz / +2.5 kHz
center freq separation:	5 kHz
degree of overlap:	11.8%
interference level:	-9.28 dB

(B) 5 kHz User Adjacent to 12.5 kHz User (one full channel from band edge)

(5 kHz user represented by emissions mask D at the left)
(12.5 kHz user represented by emissions mask F at the right)

	<i>nominal frequency</i>	<i>with 2.5 ppm shift (dashed)</i>
5 kHz center freq:	-2.5 kHz	-2.5 kHz
12.5 kHz center freq:	+12.5 kHz	+11.95 kHz
center freq separation:	15 kHz	14.45 kHz
degree of overlap:	1.5%	2.8%
interference level:	-18.16 dB	-15.51 dB

(C) 5 kHz User (with guard channel) Adjacent to 12.5 kHz User (1/2 channel from edge)

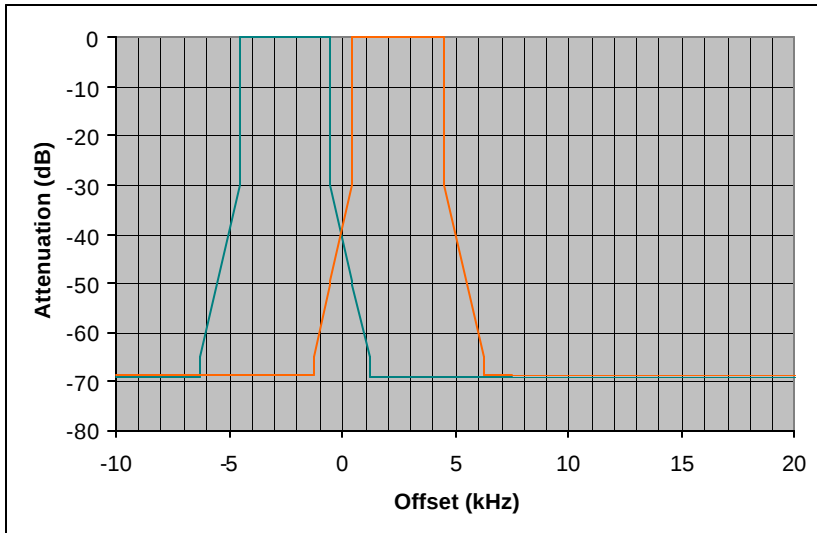
(5 kHz user represented by emissions mask D at the left)
(12.5 kHz user represented by emissions mask F at the right)

	<i>nominal frequency</i>	<i>with 2.5 ppm shift</i>
5 kHz center freq:	-7.5 kHz	-7.5 kHz
12.5 kHz center freq:	+6.25 kHz	+5.7 kHz
center freq separation:	13.75 kHz	13.2 kHz
degree of overlap:	4.9%	8.5%
interference level:	-13.1 dB	-10.7 dB

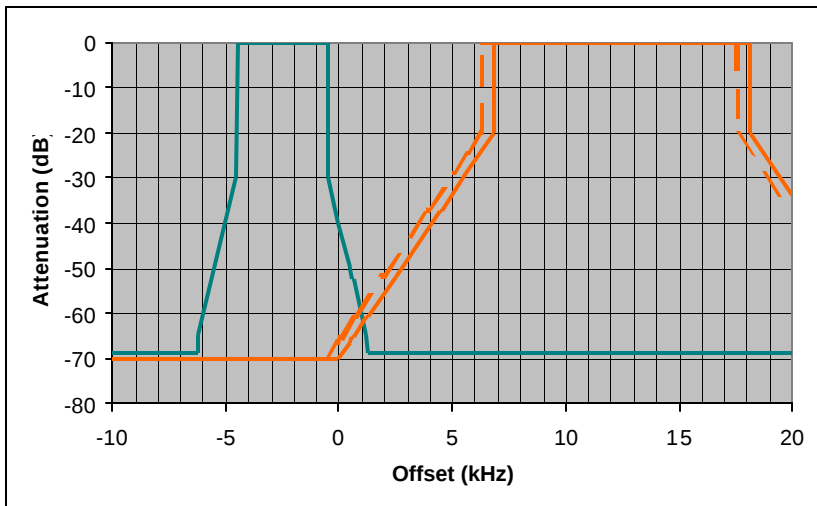
Conclusion:

The interference from an adjacent 12.5 kHz user with 2.5 ppm stability is less than the interference from an adjacent 5 kHz user.

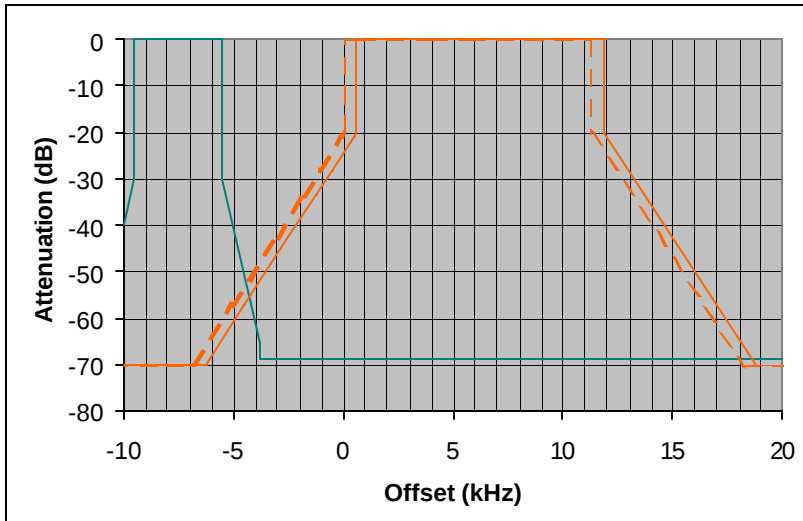
jz 11-04-01



(A) Two Adjacent 5 kHz Users



(B) 5 kHz User Adjacent to 12.5 kHz User (one full channel from band edge)



(C) 5 kHz User (with guard channel) Adjacent to 12.5 kHz User (1/2 channel from band edge)