

October 17, 2000

Federal Communications Commission
Equipment Approval Services
PO Box 358315
Pittsburgh, PA 15251-5315

Dear Sir/Madam:

Enclosed you will find an application for Certification of a Avalanche Transceiver, Model M2, Serial No. 1, FCC ID: KF5ORTOVOXM2. Certification is requested to the requirements of Part 15, Subpart C of the Commission's rules. This application is being filed by Retlif Testing Laboratories on behalf of ORTOVOX Sportarikel GmbH. The applicable Certification Filing Fee and 731 Form have been submitted.

I trust that you will find the enclosed application to be complete; however, should you have any questions or require any additional information, please feel free to contact us.

Very truly yours,

RETLIF TESTING LABORATORIES

Scott Wentworth
Manager

Enc. (as stated)

APPLICANT ORTOVOX Sportartikel GmbH Rotwandweg 5 D-82024 Taufkirchen Germany	MANUFACTURER ORTOVOX Sportartikel GmbH Rotwandweg 5 D-82024 Taufkirchen Germany
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TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C, Para. 15.209

TEST PROCEDURE: ANSI C63.4:1992

TEST SAMPLE DESCRIPTION

BRANDNAME: ORTOVOX Sportartikel GmbH MODEL: M2

TYPE: Transceiver

POWER REQUIREMENTS: 3VDC, 2 AA Batteries

FREQUENCY OF OPERATION: 457KHz

FCC ID: KF5ORTOVOXM2

APPLICABLE RULE SECTION: Part 15, Subpart C, Section 15.201 General Requirements and
15.231 Alternative Requirements

TESTS PERFORMED

Para. 15.209, Radiated Emissions

Determination of Duty Cycle

TEST SAMPLE / TEST PROGRAM

- C The transmitter is initially manually activated and then goes into continuous pulse operation.
- C The transmitter's purpose is to locate avalanche victims.
- C The field strength of harmonic and spurious emissions did not exceed $3.13\mu\text{V/M}$ at 300 meters.

DETERMINATION OF FIELD STRENGTH LIMITS

Fundamental Frequency: 457KHz

Where F is the frequency in KHz, the formula for calculating the maximum permitted fundamental field strength for 457KHz, $\mu\text{V/m}$ at 300 meters is:

$$2400 / (F)$$

$$2400 / (457) = 5.25 \mu\text{V/m}$$

The unwanted emission levels cannot exceed the level of the fundamental emission.

DETERMINATION OF DUTY CYCLE

The transmitter controls were adjusted to maximize the transmitted duty cycle. The analyzer was set for a frequency span of 0Hz. The sweep time was then adjusted in order to display one full pulse train. The transmitter on time was then summed and compared to the time for one full cycle in order to obtain the duty cycle.

Transmitter On Time	=	100 milliseconds (maximum)
Transmitter Cycle Time	=	100 milliseconds
Transmitter Duty Cycle	=	100 %
On Time divided by Cycle Time	=	Duty Cycle Factor
100 divided by 100	=	1
1 converted to dB ($\text{LOG}_{10} .1$)20	=	0dB
Duty Cycle Factor	=	0dB

Duty Cycle Factor Determination Plots are included with this application as a separate attachment.

TEST SAMPLE / TEST PROGRAM (continued)

SPECTRUM ANALYZER

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements.

GENERAL NOTES

1. All readings were taken utilizing a peak detector function at a test distance of 3 meters.
2. No duty cycle factor was applied. Peak on time exceeded -1 seconds.
3. The frequency range was scanned from 450Kz to 1GHz. Emission levels closest to the specified limit are listed on the attached data sheet.

EQUIPMENT LIST

Radiated Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
3207	Loop Antenna, Active	EMCO	10 KHz - 30 MHz	6502	3/21/00	3/21/01
4202	Biconilog	EMCO	26 MHz - 2 GHz	3142	7/10/00	7/10/01
4895	Spectrum Analyzer	Hewlett Packard	9kHz - 22GHz	8593EM	2/17/00	2/17/01