

April 17, 2001

Elite Electronic Engineering, Inc.
1516 Centre Circle
Downers Grove, IL 60515-1082

Attn: Mr. Richard King

Dear Sir:

Enclosed you will find an application for Certification of a 418MHz Cutband Transmitter, Model 418 Cutband Transmitter, Serial No. n/a, FCC ID: KNKTX0001. 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 Secure Care Products, Inc. The applicable Certification Filing Fee is being sent under separate cover.

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 Secure Care Products, Inc. 39 Chenell Drive Concord, NH 03301	MANUFACTURER SAME
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TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C, Para. 15.231

TEST PROCEDURE: ANSI C63.4:1992

TEST SAMPLE DESCRIPTION

BRANDNAME: Secure Care Products, Inc. MODEL: 418 Cutband Transmitter

TYPE: 418MHz Transmitter

POWER REQUIREMENTS: 3VDC Internal Battery (tested with new battery installed)

FREQUENCY OF OPERATION: 418MHz

FCC ID: KNKTX0001

APPLICABLE RULE SECTION: Part 15, Subpart C, Section 15.231

TESTS PERFORMED

Field Strength of Radiated Emissions, 9kHz to 4.2GHz

Occupied Bandwidth, 0.25% of Fundamental Frequency

TEST SAMPLE DESCRIPTION

The 418MHz cutband transmitter is used in the Secure Care Products 135 ID System for response to emergency conditions such as infant abductions and Alzheimer patient wandering alarm. The ID System uses bracelets/bands which secure around the wrist or ankle of a patient/infant. The dual frequency transmitter bracelet transmits a 13.56MHz signal for door access control and a second frequency of 418MHz which is used only in emergency mode. If unauthorized removal or cutting of the bracelet occurs the device transmits a 418MHz signal to signal an alarm. The 418MHz signal consists of pulse recognition codes which are used to identify the bracelet which has been activated. Transmission of the 418MHz signal is continuous for the duration of the emergency as is allowed in 15.231(a)(4) for emergencies involving security or safety of life.

DETERMINATION OF FIELD STRENGTH LIMITS

The field strength limits shown below were calculated as instructed in Section 15.231.

Fundamental Frequency: 418MHz

Where F is the frequency in MHz, the formula for calculating the maximum permitted fundamental field strength for the band 260-470MHz, $\mu\text{V/m}$ at 3 meters is as follows:

$$\begin{aligned} 41.6667(F) - 7083.3333 &= \text{Field Strength Limit } (\mu\text{V/m}) \\ 41.6667 \times 418 &= 17416.6806 \\ 17416.6806 - 7083.3333 &= 10333.33 \\ \text{Field Strength Limit} &= 10333.33 \mu\text{V/m} \end{aligned}$$

The maximum permitted unwanted emission level is 20dB below the maximum permitted fundamental level.

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

- All readings were taken utilizing a peak detector function at a test distance of 3 meters.
- The 418 cutband transmitter is automatically activated. The transmitter operates for the duration of the alarm conditions per 15.231 (a)(4).
- The EUT only transmits when at 418MHz an alarm signal is required during an emergency condition. At all other times the EUT is dormant or in sleep mode.
- The EUT is employed for RC purposes involving security and safety of life per 15.231(a)(4).
- The emissions recorded using instruments with peak detector did not exceed 10333.33 $\mu\text{V/M}$ (Average) at 3 meters. For fundamental frequency at 418MHz no spurious emissions were above the limit as specified by 15.231, 15.205 and 15.209.
- The EUT operates at a frequency of 418MHz. The bandwidth of emissions did not exceed 0.25% of the operating frequency:

$$\begin{aligned} \text{Fundamental Frequency} &= 418\text{MHz} \\ 0.25\% \text{ of Center Frequency} &= 1.045\text{MHz} \\ 1.045 \text{ divided by } 2 &= 0.5225\text{MHz} \\ \text{Bandwidth Range} &= \text{Fundamental Frequency} + \text{ and } - .5225\text{MHz} \\ 418\text{MHz} - .5225\text{MHz} &= 417.4775\text{MHz} \\ 418\text{MHz} + .5225\text{MHz} &= 418.5225\text{MHz} \\ \text{Bandwidth Range} &= \mathbf{417.4775\text{MHz} - 418.5225\text{MHz}} \end{aligned}$$

- The device uses a monopole, circuit trace antenna.
- Radiated Emissions from the EUT were measured in all EUT axis. The attached Radiated Emissions test data is representative of the worst case axis.

EQUIPMENT LIST

Field Strength of Fundamental

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
296	Spectrum Analyzer	Advantest	10 kHz - 3.6 GHz	R-4131B	9/5/00	9/5/01
3118	Broadband Pre-Amplifier	Electro-Metrics	10 KHz - 1 GHz	BPA-1000	7/11/00	7/11/01
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
4921	Graphics Plotter	Hewlett Packard	N/A	7550A	4/25/00	4/25/01

Occupied Bandwidth

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
296	Spectrum Analyzer	Advantest	10 kHz - 3.6 GHz	R-4131B	9/5/00	9/5/01
3233	Graphics Plotter	Hewlett Packard	N/A	7470A	4/11/00	4/11/01

Out of Band Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
296	Spectrum Analyzer	Advantest	10 kHz - 3.6 GHz	R-4131B	9/5/00	9/5/01
3116	Pre-Amplifier	Miteq	0.1 GHz - 18 GHz	AFS42-35	1/4/00	1/4/01
3117	Power Supply	B&K Precision	0-30 Vdc, 3.0 A	1630	2/23/00	2/23/01
3118	Broadband Pre-Amplifier	Electro-Metrics	10 KHz - 1 GHz	BPA-1000	7/11/00	7/11/01
3258	Double Ridge Guide	EMCO	1 - 18 GHz	3115	4/6/00	4/6/01
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
4921	Graphics Plotter	Hewlett Packard	N/A	7550A	4/25/00	4/25/01

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RETLIF TESTING LABORATORIES

TABULAR DATA SHEET

TEST METHOD: Out of Band Emissions

CUSTOMER: Secure Care Products, Inc. **JOB NO:** R-3671N11

TEST SAMPLE: 418 MHz Cutband Transmitter

MODEL NO: 418 Cutband Transmitter **SERIAL NO:** n/a

TEST SPECIFICATION: FCC Part 15, Subpart C Paragraph: 15.231(b) & 15.205

OPERATING MODE: Continuously Transmitting

TECHNICIAN: T. Firkowski **DATE:** 9/1/00

NOTES: Detector Function: Peak @ 3m to Average Limits

TRANSMIT FREQUENCY	MEASURED FREQUENCY	ANTENNA/EUT POSITION	METER READING	CORRECTION FACTOR	CORRECTED READING	LIMIT @ 3 METERS	CONVERTED READING	LIMIT @ 3 METERS
MHz	MHz	Polarization/Axis	dBuV	dB	dBuV/m	dBuV/m	uV/m	uV/m
418.00	836.06	H/X	35.60	16.50	51.50	60.28	375.83	1033.3
	1254.29	V/Y	54.00	-11.10	42.90	60.28	139.63	1033.3
	1672.22	V/Z	56.00	-11.10	44.90	54.00	175.80	500.00
	2090.18	V/Z	47.80	-9.00	38.80	60.28	87.10	1033.3
	2509.98	V/Y	35.60	-7.70	27.90	60.28	24.83	
	2926.00	---	---	---	---	60.28	---	
	3344.00	---	---	---	---	60.28	---	1033.3
	3762.00	---	---	---	---	54.00	---	500.00
	4181.00	---	---	---	---	54.00	---	500.00
	---	---	---	---	---	60.28	---	1033.3
418.00	---	---	---	---	---	60.28	---	1033.3

EQUIPMENT LIST

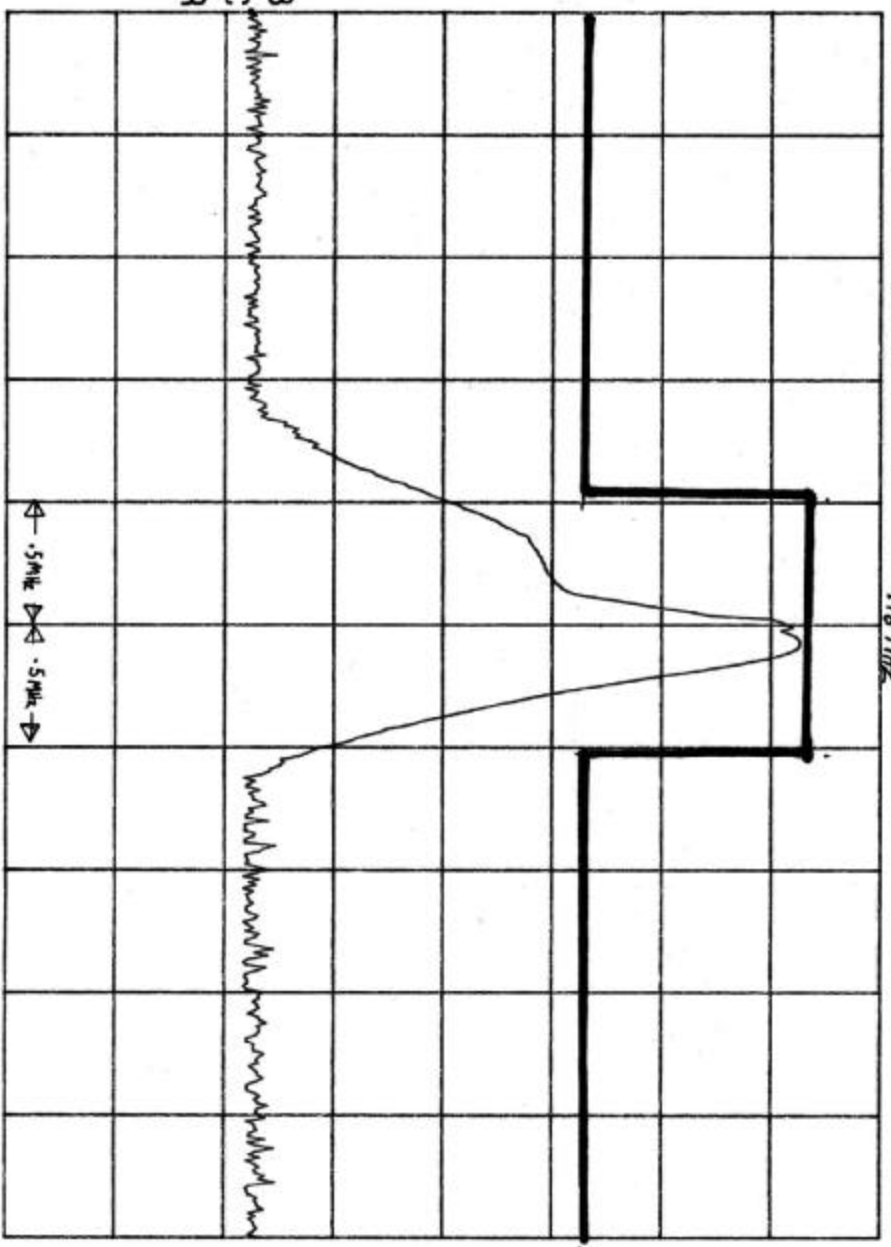
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10:38:37 SEP 01, 2000
 R-3671N11 Secure Care, Occupied Bandwidth TF
 REF 80.0 dBµV #AT 0 dB

PEAK
 LOG
 10
 dB/

MA SB
 SC FC
 CORR



CENTER 418.000 MHz
 #RES BW 100 KHZ
 Horizontal Scale = 500 kHz/Division
 VBW 300 KHZ
 SPAN 5.000 MHz
 #SWP 2.00 sec

Activated Bandwidth @ 20dB
 1.045 MHz
 (-1.5225 MHz of Freq)