EXHIBIT 6

TEST REPORT

APPLICANT NAME: Intermec Technologies Corporation
Amtech Systems Division

FCC ID: FIH261105392-01

Test Report
For
Application of Certification

For

INTERMEC TECHNOLOGIES CORPORATION
AMTECH SYSTEMS DIVISION
8600 Jefferson Street, NE
Albuquerque, NM 87113
Phone: (505)856-8054

MODEL: ALLEGRO RF MODULE
IT2611-003, -004
LMS Transmitter

FREQUENCY: 902.25-903.75 MHz (CW)
910-921.5 MHz (CW)
912.75-918.75 MHz (MOD)
FCC ID: FIH 261105392-01

Test Date: May 11, 1999

Certifying Engineer: Scot D Rogers

Scot D. Rogers
ROGERS LABS, INC.
4405 W. 259th Terrace
Louisburg, KS 66053
Phone: (913)837-3214
FAX: (913)837-3214

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FORWARD:

In accordance with the Federal Communications Code of Federal Regulations, dated October 1, 1998, Part 2 Subpart J, Paragraphs 2.907, 2.911, 2.913, 2.925, 2.926, 2.1031 through 2.1057; 90.201 through 90.217, 90.350 through 90.363; and Report and Order FCC 98-58 the following is submitted:

List of Test Equipment

A Hewlett Packard 8591EM and or 8562A Spectrum Analyzer was used as the measuring device for the emissions testing. The analyzer settings used are described in the following table. Refer to Appendix for a complete list of Test Equipment.

HP 8591EM SPECTRUM ANALYZER SETTINGS		
CONDUCTED EMISSIONS:		
RBW	AVG. BW	DETECTOR FUNCTION
9 kHz	30 kHz	Peak/Quasi Peak
RADIATED EMISSIONS (30 - 1000 MHz):		
RBW	AVG. BW	DETECTOR FUNCTION
120 kHz	300 kHz	Peak/Quasi Peak
HP 8562A SPECTRUM ANALYZER SETTINGS		
RADIATED EMISSIONS (1 - 40 GHz):		
RBW	AVG. BW	DETECTOR FUNCTION
1 MHz	1 MHz	Peak/Average
ANTENNA CONDUCTED EMISSIONS:		
RBW	AVG. BW	DETECTOR FUNCTION
100 kHz	300 kHz	Peak

2.1033(c) Application for Certification

1. Manufacturer: INTERMEC TECHNOLOGIES CORPORATION
   Amtech Systems Division
   8600 Jefferson Street, NE
   Albuquerque, NM 87113

2. Identification: Model: IT2611-003, -004

   FCC I.D.: FIH 261105392-01

3. Refer to Installation and Operating Instruction Manual.

4. Emission Type:

   Continuous Wave Emission Designator. NON
   Modulated Signal Emission Designator. 1M8L1D

5. Frequency Range:

   CW 902.25-903.75
   CW 910-921.5
   MOD 912.75-918.75

6. Operating Power Level:

   1 Watt. Maximum power output is factory set and may be attenuated in 1-dB steps to a minimum of 10 mW.

7. Max P_o:

   1 Watt per channel.

8. Power into final amplifier:

   +12 Vdc @ 2.0 amps (24 Watts)

9. Tune Up Procedure: Refer to Exhibits.

10. Refer to Exhibits for function of semiconductors and other active devices.

11. Refer to Exhibit for FCC ID Label.

12. Refer to Appendix for photographs of equipment.

13. Refer to Exhibit for details of modulation techniques.

2.1046 RF Power Output

Measurements Required:

Measurements shall be made to establish the radio frequency power delivered by the transmitter into the standard output termination. The power output shall be monitored and recorded and no adjustment shall be made to the transmitter after the test has begun, except as noted below:
If the power output is adjustable, measurements shall be made for the highest and lowest power levels.

Test Arrangement:

The r.f. power output was measured at the antenna terminals by replacing the antenna with a spectrum analyzer, 6dB Attenuator and cable (with 0.5 dB loss in the cable). The spectrum analyzer had impedance of 50Ω to match the impedance of the standard antenna. A HP 8591EM Spectrum Analyzer was used to measure the r.f. power at the antenna port. The data was taken in dBm and converted to watts as shown in the following Table. Refer to Figures 1 through 6 showing the output power of the transmitter. Data taken per Paragraph 2.1046(a) and applicable parts of Part 90.

P_{dBm} = power in dB above 1 milliwatt.
Milliwatts = $10^{(PdBm/10)}$
Watts = (Milliwatts)(0.001)(W/mW)

Results:

0 dB ATTENUATION

FREQUENCY	P_{dBm}	P_{mw}	P_w
903.0	29.8	954.9	0.95
918.75	27.45	555.9	0.56

6 dB ATTENUATION

FREQUENCY	P_{dBm}	P_{mW}	E_{V}
903.0	23.2	209.4	0.21
918.75	20.2	104.7	0.11

15 dB ATTENUATION

FREQUENCY	P_{dBm}	P_{mW}	E_{V}
903.0	14.8	30.2	0.03
918.75	11.1	12.8	0.01

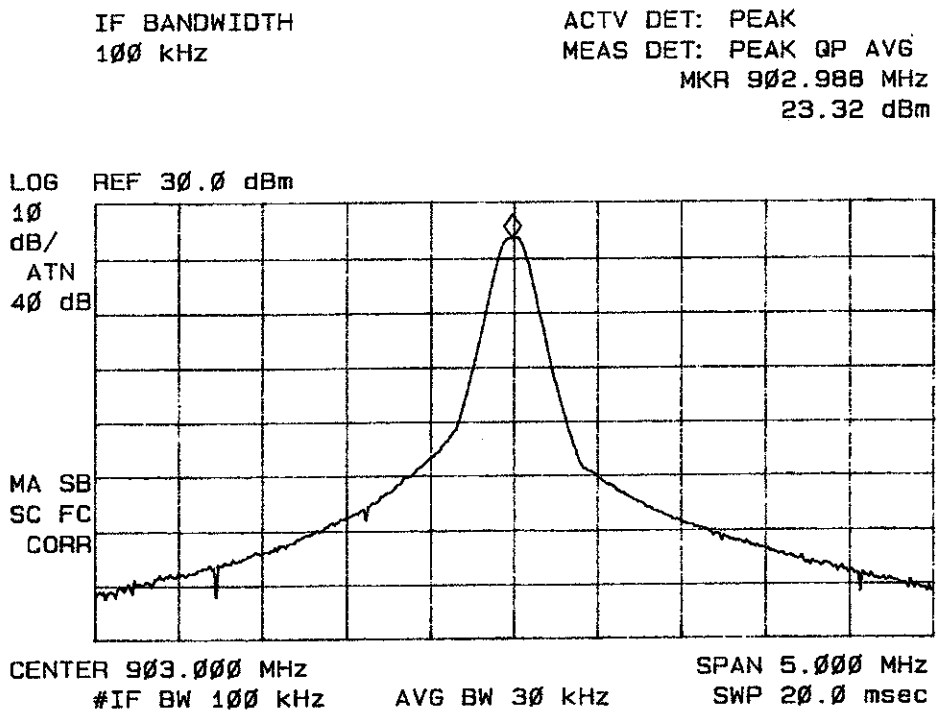


Figure 1 0dB Attenuation @ 903.0 MHz

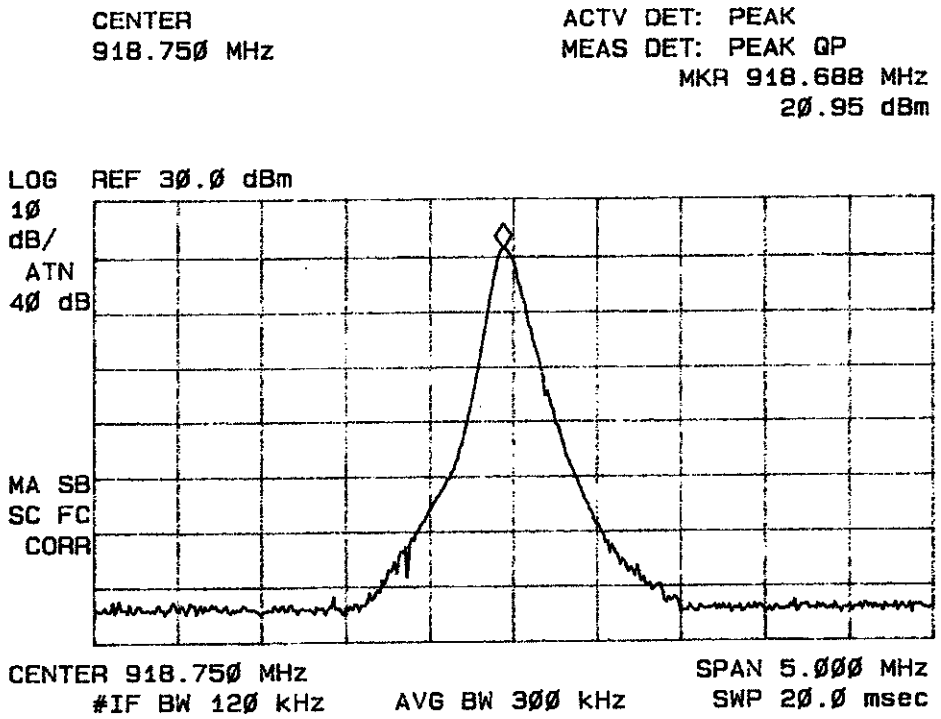


Figure 2 0dB Attenuation @ 918.75 MHz

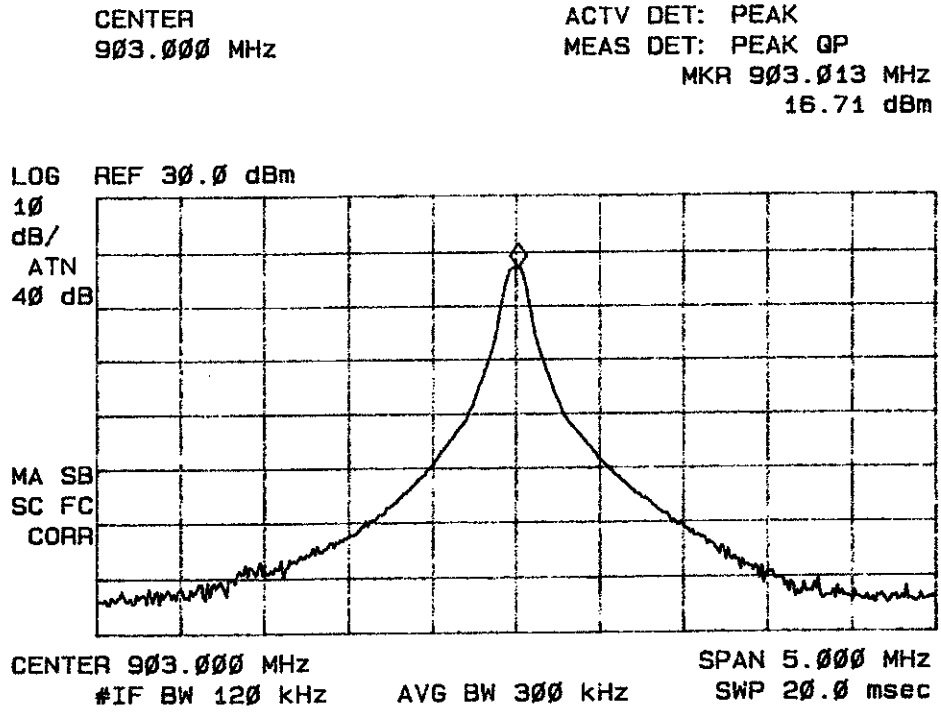


Figure 3 6dB Attenuation @ 903.0 MHz

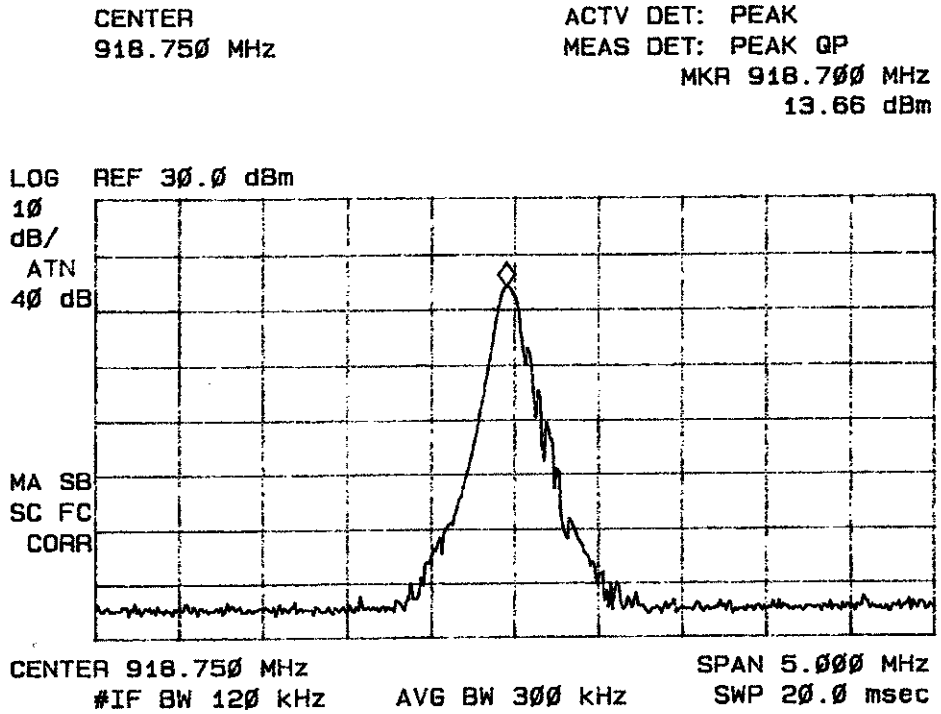


Figure 4 6dB Attenuation @ 918.75 MHz

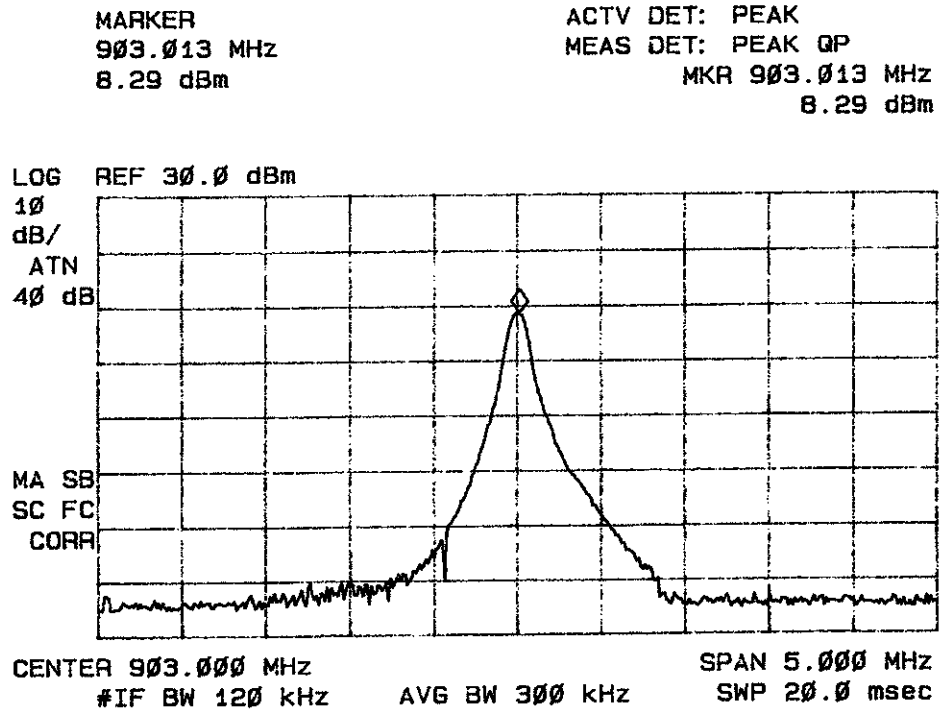


Figure 5 15dB Attenuation @ 903.0 MHz

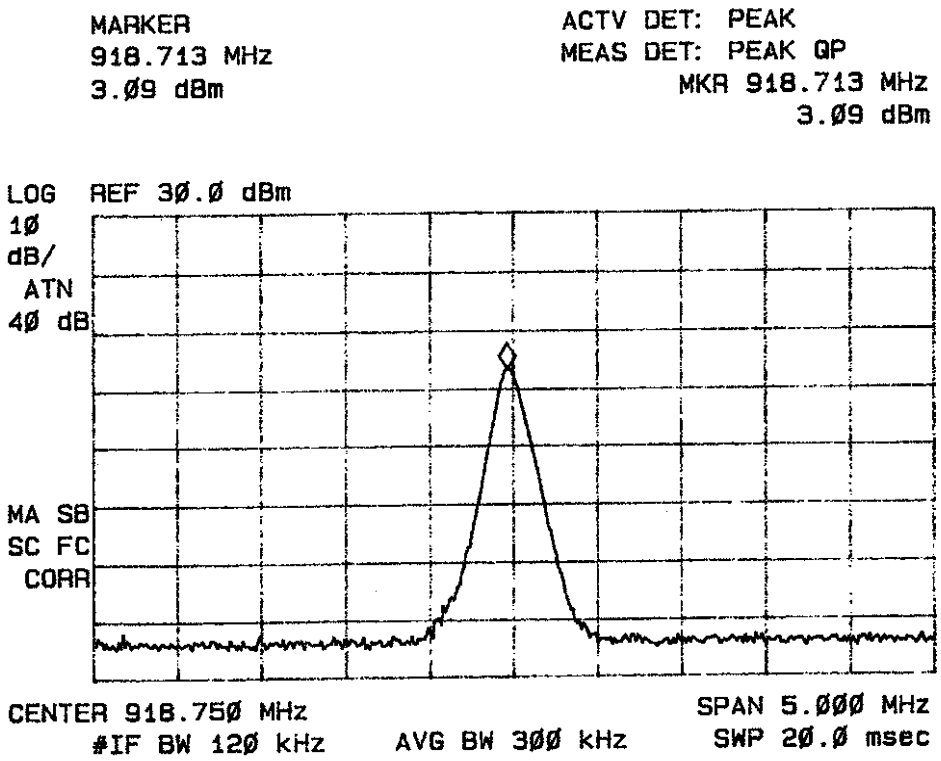


Figure 6 15dB Attenuation @ 918.75 MHz

The specifications of Paragraph 2.1046(a) and 90.205 are met. There are no deviations to the specifications.

2.1047 Modulation Characteristics

Measurements Required:

A curve or equivalent data that shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed shall be submitted.

Test Arrangement:

The r.f. output was coupled to a HP 8591EM Spectrum Analyzer. The spectrum analyzer was used to observe the r.f. spectrum with the transmitter operating in its normal mode.

Results:

The transmitter operates in two modes continuous wave (CW) mode and modulated mode. The signal is modulated at 300 K baud with Manchester-encoded data. Both signals are turned on and off at a rate of 285 Hz to yield a 97% duty cycle. The ON/OFF modulation ensures that the two channels are never fully enabled at the same time. Specifications of Paragraphs 2.1047 and 90.211 are met. There are no deviations to the specifications.

2.1049 Occupied Bandwidth

Measurements Required:

The occupied bandwidth, that is the frequency bandwidth such that below its lower and above its upper frequency limits, the mean powers radiated are equal to 0.5 percent of the total mean power radiated by a given emission.

Test Arrangement:

Results:

MODE	f_c	O.B. kHz
CW	903.0	375
CW	918.75	313
MOD	918.75	1863

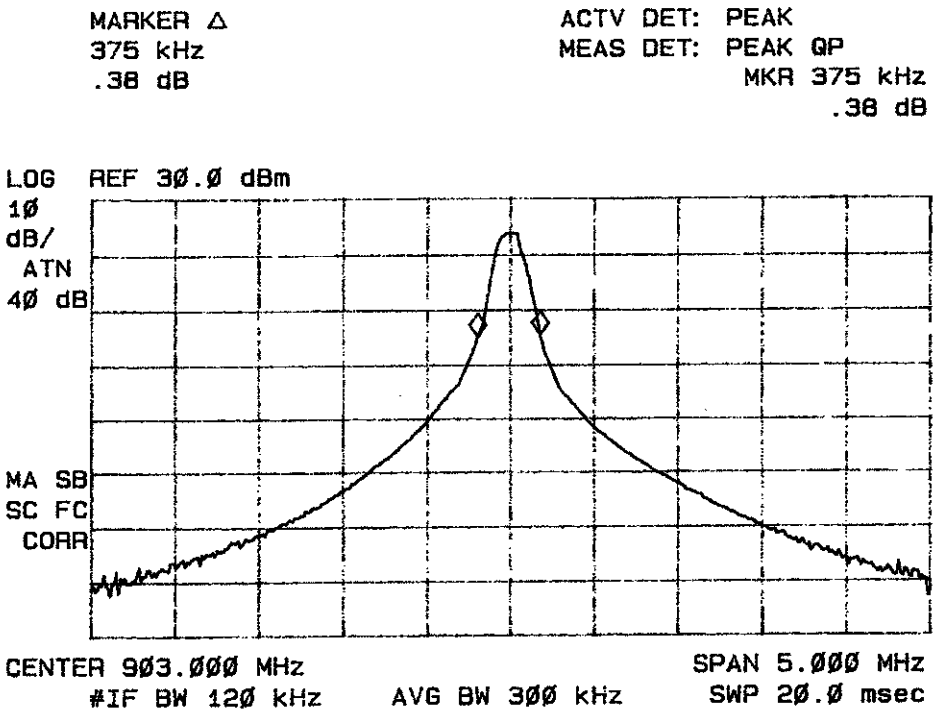


Figure 7 Occupied Bandwidth CW Mode 903 MHz

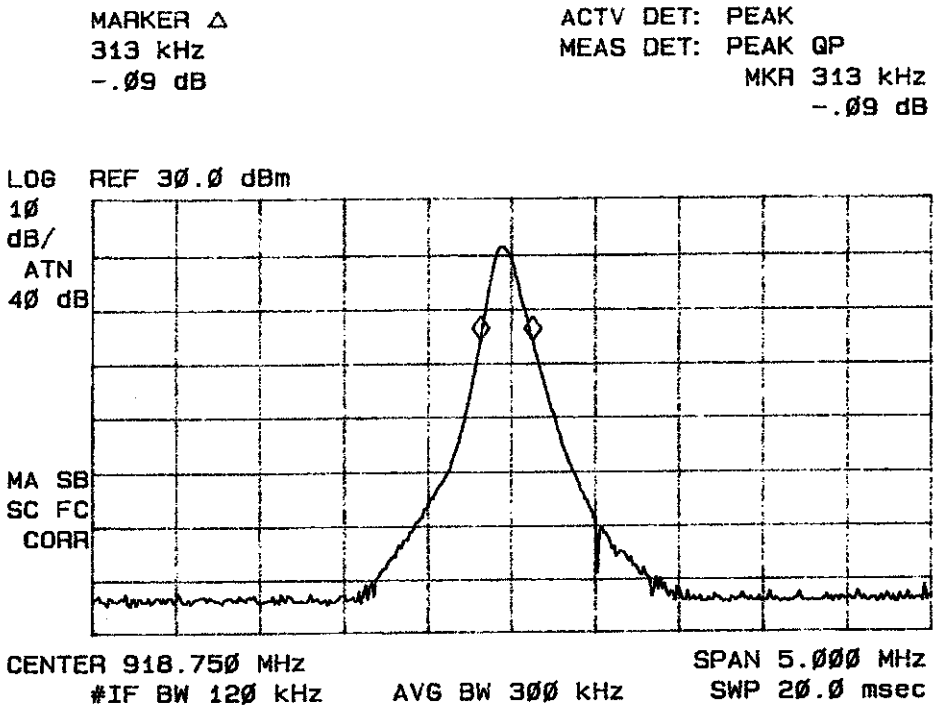


Figure 8 Occupied Bandwidth CW Mode 918.75 MHz

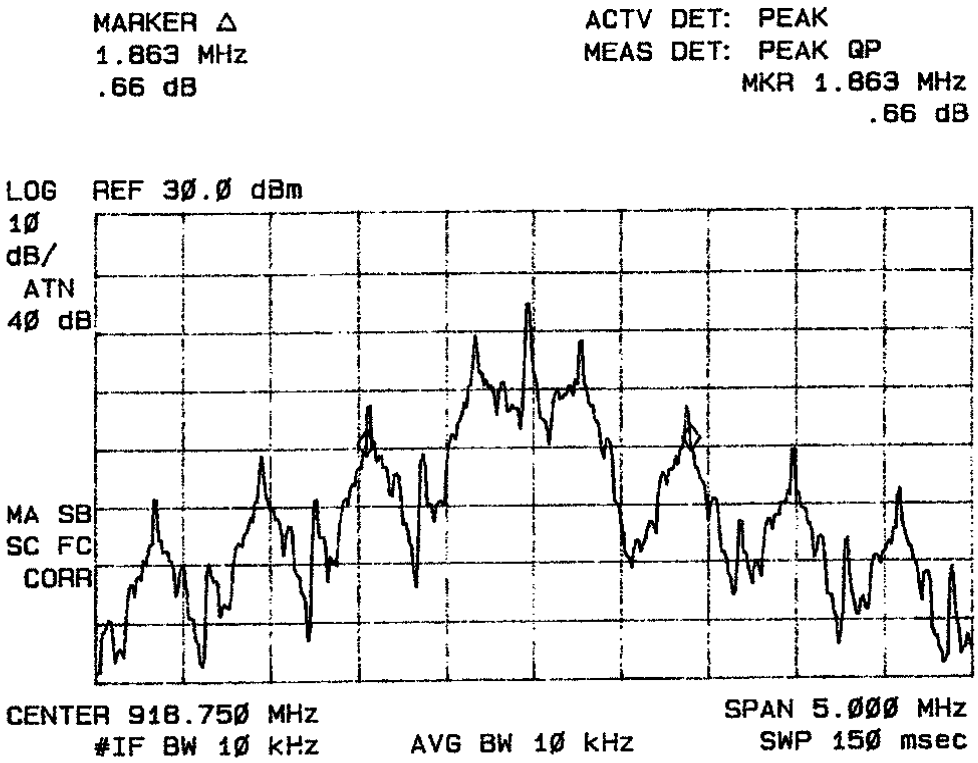


Figure 9 Occupied Bandwidth Modulated 918.75 MHz

Requirements of 2.1049 and applicable parts of Paragraph 90 are met. There are no deviations to the specifications.

2.1051 Spurious Emissions at Antenna Terminals

Measurements Required:

The radio frequency voltage or power generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna.

Test Arrangement:

The r.f. output was coupled to a HP 8562A Spectrum Analyzer. The spectrum analyzer was used to observe the r.f. spectrum with the transmitter operating in its normal mode. The frequency spectrum from 0 to 10 GHz was observed and plots produced of the frequency spectrum. Figures 10 and 11 represent data for the

ALLEGRO RF MODULE. Data taken per 2.1051 and applicable parts of Part 90.

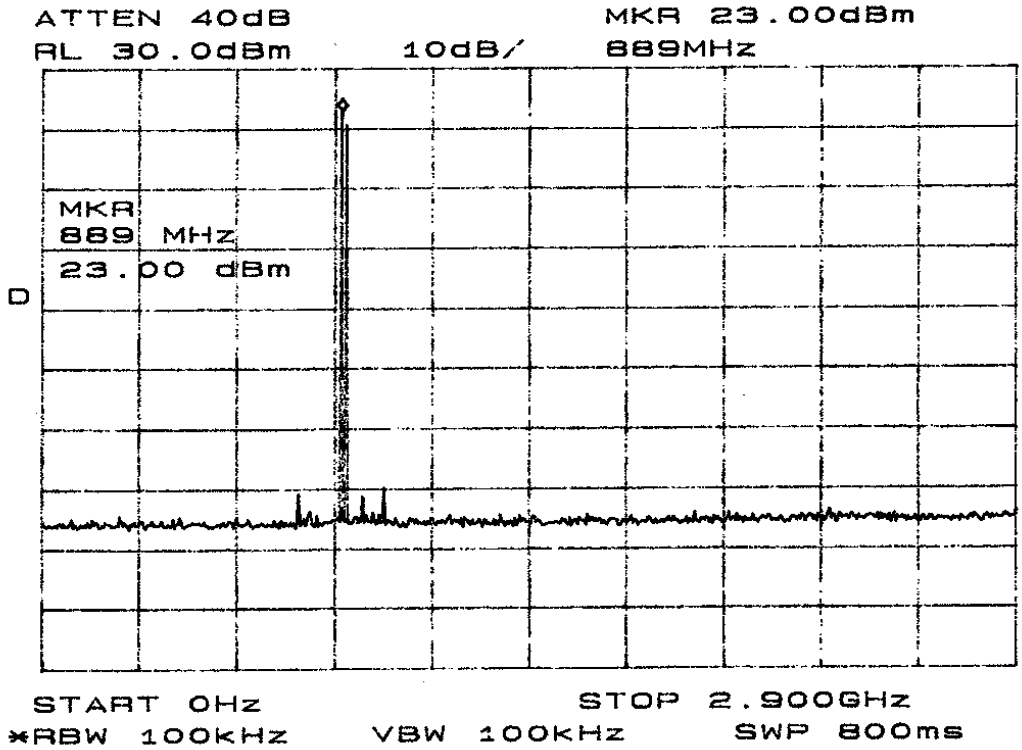


Figure 10 Emissions at Antenna Terminal

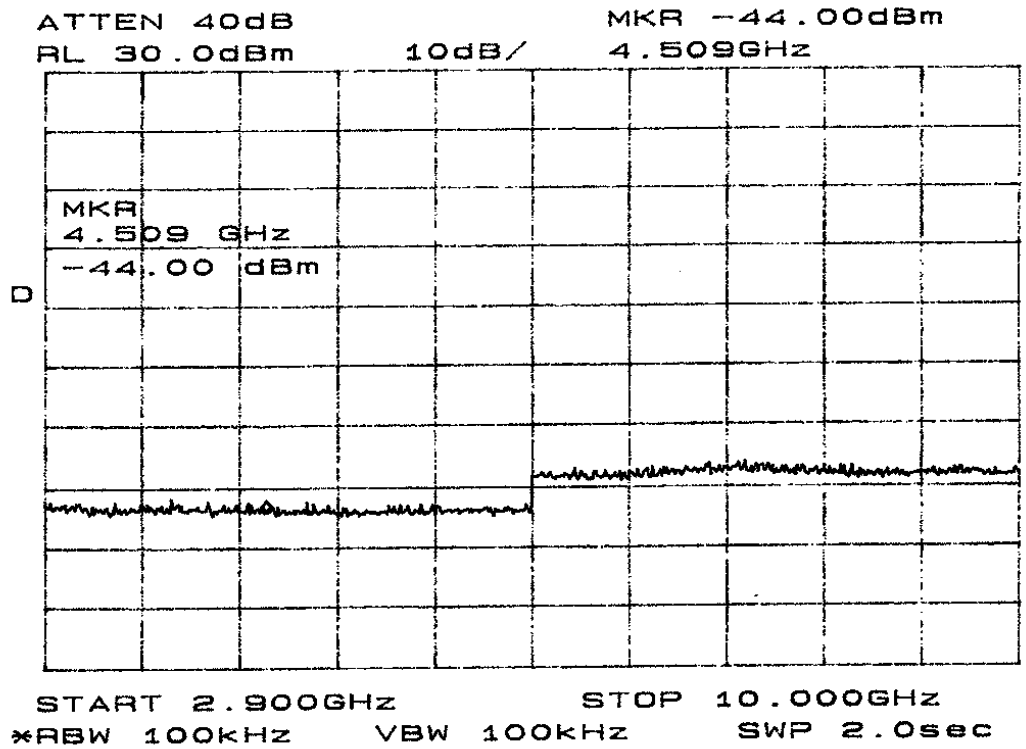


Figure 11 Emissions at Antenna Terminal

Results:

Data taken per 2.1051 and applicable parts of Part 90. Specifications of Paragraphs 2.1051, 2.1057 and 90.211(3) are met. There are no deviations to the specifications.

FREQUENCY	SPURIOUS FREQ. (GHz)	LEVEL BELOW CARRIER (dB)
903.0	1806.0	-75.1
	2709.0	-76.3
	3612.0	-80.5
	4515.0	-79.8
918.75	1837.5	-72.8
	2756.3	-75.8
	3675.0	-76.1
	4593.8	-75.0

2.1053 Field Strength of Spurious Radiation

Measurements Required:

Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation.

Test Arrangement:

The transmitter was placed on a wooden turntable 0.8 meters above the ground plane and at a distance of 3 meters from the FSM antenna. The antenna port was terminated in to a 50 Ω load. The transmitter was activated and the frequency spectrum was observed. The turntable was rotated though 360 degrees to locate the position registering the highest amplitude emission. The frequency spectrum was then searched for spurious emissions generated from the transmitter and support equipment. The amplitude of each spurious emission was maximized by raising and lowering the FSM antenna, rotating the turntable; and changing antenna polarization between horizontal and vertical before

data was recorded. A Biconilog antenna was used to measure frequencies from 30 to 1000 MHz and/or a log periodic antenna was used for frequencies of 200 MHz to 5 GHz and pyramidal horn antennas were used for frequencies of 5 GHz to 40 GHz. Emission levels were measured and recorded from the spectrum analyzer in dBμV. This level was then added to the antenna factor less the amplifier gain to calculate the field strength at 3 meters. Data was taken at the ROGERS LABS, INC. 3 meters open area test site (OATS). A description of the test facility is on file with the FCC, Reference: 31040/SIT, 1300F2, dated February 6, 1998. The testing procedure used conforms to the procedures stated in the ANSI 63.4-1992 document.

Calculations made are as follows:

CFS = Calculated Field Strength
FSM = Field Strength Measurement
CFS = FSM + Antenna Factor - Amplifier Gain
CFS = 48.6 + 6.7 - 35
CFS = 20.3

The limit for emissions are defined by the following equations:

Limit = Amplitude of spurious emission must be attenuated by this amount below the level of the fundamental.

$$\begin{aligned} \text{Attenuation} &= 55 + 10\ \text{Log}_{10}(P_w) \\ &= 55 + 10\ \text{Log}_{10}(1.0) \\ &= 55\ \text{dB} \end{aligned}$$

Radiated (8 Highest Emissions)

Freq. In MHz	FSM Hor. (dBµV)	FSM Vert. (dBµV)	Ant. Fact. (dB)	Amp. Gain (dB)	Comp. Hor. (dBµV/m) @ 10m	Comp. Vert. (dBµV/m) @ 10 m	Lim. @ 10m (dBµV/m) @ 10 M
60.0	48.6	63.4	6.7	35	20.3	35.1	40.0
68.0	56.8	59.4	6.7	35	28.5	31.1	40.0
72.0	59.0	61.7	8.0	35	32.0	34.7	40.0
76.1	54.3	58.1	8.0	35	27.3	31.1	40.0
80.0	49.4	51.6	8.9	25	33.3	35.5	40.0
300.7	56.1	60.6	14.7	35	35.8	40.3	46.0
400.9	53.8	59.4	16.4	35	35.2	40.8	46.0
467.7	54.3	58.3	16.9	35	36.2	40.2	46.0

Other emissions present had amplitudes at least 10 dB below the limit.

Results:

Frequency (MHz)	FSM Horz. (dBµV)	FSM Vert. (dBµV)	Ant. Factor (dB)	Amp. Gain (dB)	CFS Horz. @ 3m (dBµV/m)	CFS Vert. @ 3m (dBµV/m)	Limit
1806.0	29.5	29.5	26.3	25	30.8	30.8	54.0
2709.0	31.0	31.6	33.4	25	39.4	40.0	54.0
3612.0	31.6	33.5	38.3	25	44.9	46.8	54.0
4515.0	32.3	32.3	42.5	25	49.8	49.8	54.0
1837.5	29.6	29.8	26.3	25	30.9	31.1	54.0
2756.3	29.3	31.1	33.4	25	37.7	39.5	54.0
3675.0	32.8	31.8	38.3	25	46.1	45.1	54.0
4593.8	30.5	30.5	42.5	25	48.0	48.0	54.0
1837.5	29.1	28.8	26.3	25	30.4	30.1	54.0
2756.3	30.0	30.0	33.4	25	38.4	38.4	54.0
3675.0	31.0	31.1	38.3	25	44.3	44.4	54.0
4593.8	30.3	30.5	42.5	25	47.8	48.0	54.0

Specifications of Paragraph 2.1053, 2.1057 and 90.211 are met.
There are no deviations to the specifications.

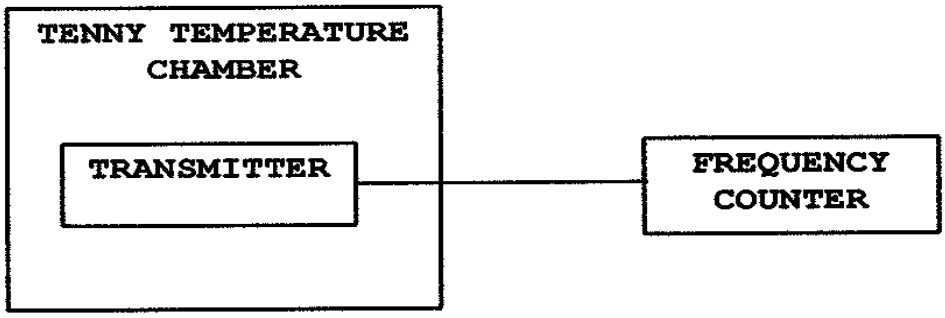
2.1055 Frequency Stability

Measurements Required:

Pursuant to 90.213(a), Note 13, frequency stability testing is not required. However, pursuant to good engineering practices, temperature stability was measured for the operating temperature range of the unit and recorded in the supplemental Appendix.

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
(2) For hand carried, batteries powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.
(3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

Test Arrangement:



The measurement procedure outlined below shall be followed:

Step 1: The transmitter shall be installed in an environmental test chamber whose temperature is controllable. Provision shall be made to measure the frequency of the transmitter.
Step 2: With the transmitter inoperative (power switched "OFF"), the temperature of the test chamber shall be adjusted to +25°C. After a temperature stabilization period of one hour at +25°C, the transmitter shall be switched "ON" with standard test voltage applied.

Step 3: The carrier shall be keyed "ON", and the transmitter shall be operated unmodulated at full r.f. power output at the duty cycle for which it is rated, for duration of at least 5 minutes. The r.f. carrier frequency shall be monitored and measurements shall be recorded.
Step 4: The test procedures outlined in Steps 2 and 3, shall be repeated after stabilizing the transmitter at the environmental temperatures specified.

The frequency stability was measured with variations in the power supply voltage from 85 to 115 percent of the nominal value. An Elgar AC Power Source was used to vary the ac voltage for the power input from 102 Vac to 138 Vac. The frequency was measured and the variation in parts per million was calculated. Data was taken per Paragraphs 2.1055 and 90.213.

Results:

REFER TO EXHIBIT FOR FREQUENCY STABILITY VS TEMP.

FREQUENCY IN MHz	STABILITY VS VOLTAGE VARIATION ±15% IN PPM INPUT VOLTAGE		
	102.0 V_{ac}	120.0 V_{ac}	138.0 V_{ac}
903.00	0	0	0
918.75	0	0	0

Specifications of Paragraphs 2.1055 and 90.213 are met. There are no deviations to the specifications.

APPENDIX

Model: ALLEGRO RF MODULE

1. Photos of Conducted Emissions Test Set Up
2. Photos of Radiated Emissions Test Set U
3. Photos of Case Front and Back
4. Photos Inside of Case
5. Photos RF PC Board
6. Photos FCC ID Label and Location
7. Test Equipment List.
8. Rogers Qualifications.
9. FCC Site Approval Letter.

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QUALIFICATIONS

Of

SCOT D. ROGERS, ENGINEER

ROGERS LABS, INC.

Mr. Rogers has approximately 12 years experience in the field of electronics. Six years working in the automated controls industry and 6 years working with the design, development and testing of radio communications and electronic equipment.

POSITIONS HELD:

Systems Engineer:	A/C Controls Mfg. Co., Inc. 6 Years
Electrical Engineer:	Rogers Consulting Labs, Inc. 5 Years
Electrical Engineer:	Rogers Labs, Inc. Current

EDUCATIONAL BACKGROUND:

1) Bachelor of Science Degree in Electrical Engineering from Kansas State University.

2) Bachelor of Science Degree in Business Administration Kansas State University.

3) Several Specialized Training courses and seminars pertaining to Microprocessors and Software programming.

Scot D Rogers
Scot D. Rogers

_____
Date

1/11/99

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

February 6, 1998

IN REPLY REFER TO
31040/SIT
1300F2

Rogers Labs, Inc.
4405 West 259th Terrace
Louisburg, KS 66053

Attention: Scot D. Rogers

Re: Measurement facility located at above address
(3 and 10 meter site)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that the facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is updated monthly and is available on the Laboratory's Public Access Link (PAL) at 301-725-1072, and also on the Internet at the FCC Website www.fcc.gov/oet/info/database/testsite/.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch