APPLICATION FOR FCC CERTIFICATION

For

General Research of Electronics Inc.

Scanning Receiver

Model: 20-522 (PRO-92)

FCC ID: AAO2000522

Job # J99012817

Report #J99012817a

Date of Testing: May 13, 1999

Date of Report: May 21, 1999

Number of Pages: Error! Bookmark not defined.

The results contained in this report were derived from measurements performed on the identified test samples. Any implied performance of other samples on this report is dependent on the representative of the samples tested.

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AUTHORIZATION LETTER

Please see attached page

GRE GENERAL RESEARCH OF ELECTRONICS, INC.

TEL: 813-5439-3611
FAX: 813-5439-3644

SHIBA NO.3 AMEREX BLDG.
3-12-17 MITA, MINATO-KU
TOKYO, JAPAN 108

Tokyo:

Reference No.

Agent Authorization Format (Federal Communications Commision)

Date: May 12, 1998

Federal Communications Commission
Authorization and Evaluation Division
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

Gentlemen:

We, the undersigned, hereby authorize Intertek Testing Services to act on our behalf in all matters relating to applications for equipment authorization, including the signing of all documents relating to these matters. Any and all acts carried out by Intertek Testing Services on our behalf shall have the same effect as acts of our own.

We also hereby certify that no party to the applications authorized hereunder is subject to a denial of benefits, that includes FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853 (a).

This agreement expires one year from the current date.

Sincerely,

N. Tomita, Chief Engineer

PRODUCT DEVELOPMENT & MANUFACTURING

RadioShack®
A Division of Tandy Corporation

Engineering and Regulatory Affairs 817-415-3203 FAX: 817-415-3092
100 Throckmorton St., Ste. 1300, Fort Worth, Texas 76102-2802

March 19, 1999

Federal Communications Commission
1919 M Street
Washington, DC 20554-1300

SUBJECT: Limited Agency Agreement

RE: FCC ID# AAO2000522

We, RadioShack, A Division of Tandy Corporation, hereby authorize GRE to act as our agent for the purpose of preparing application for FCC ID# AAO2000522 under all applicable parts of the FCC rules and regulations.

The effective date of this limited agency agreement is March 19, 1999 The limited agency agreement expires on September 19, 1999, unless sooner terminated or extended by written notice to the GRE and the Federal Communications Commission.

This is to advise that we are in full compliance with the Anti-Drug Abuse Act. The applicant is not subject to a denial of federal benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. 862, and no party to the application is subject to a denial of federal benefits pursuant to that section.

If you have any questions or comments, please do not hesitate to contact me.

Sincerely,

Dwayne Campbell

Dwayne Campbell
Manager, Engineering and Regulatory Affairs

ATTESTATION LETTER TO FCC §15.121

Please see attached page.

GENERAL RESEARCH OF ELECTRONICS, INC.

Phone: +813-5439-3611

Fax: +813-5439-3644

SHIBA NO. 3 AMEREX BLDG.
3-12-17 MITA, MINATO-KU,
TOKYO 108-0073, JAPAN

April 27, 1999

Federal Communications Commission
Authorization and Evaluation Division
Laboratory Division
7435 Oakland Mills Road
Colombia, MD 21046

Ref.: Radio Shack Model 20-522, FCC ID: AAO2000522:

This is to clarify that the above equipment is incapable of operating (tuning) or readily being altered by the user to operate, within the frequency bands to the Cellular Radiotelephone Service.

The frequencies in question are deleted from the ROM during manufacture, and cannot be restored through any readily available process or component such as: installation of cuts, jumper wires, resistors, diodes, or plug-in IC's; deletion of such items; or reprogramming via access codes or external devices such as a personal computer.

The receiver is incapable of converting digital cellular transmissions to analog voice audio.

Assessing the vulnerability of the receiver to possible modification

The receiver has the possibility of reducing the threshold value to discern transmissions from the Cellular Radiotelephone Service by making modification such as adding jumper wire to the RF bandpass filters.

Design features that prevent modification of the receiver to receive Cellular Service

The scanning receiver is designed to prevent any attempt for the user to modify the receiver to receive transmissions from the Cellular Radiotelephone Service by using epoxy to cover the required parts of the RF circuitry including control circuits and bandpass filters.

Testing method used to determine compliance with the 38 dB rejection ratio

The scanning receiver prevents transmissions more than 38dB from the Cellular Radiotelephone Service from being received for the following reasons:

1. The image frequencies in the frequency range from 29 MHz to 512 MHz are shown as follows:

FR = 29 to 54 MHz, 108 to 174 MHz, 380 to 512 MHz
IF = 257.5 MHz

FR + 2 x IF = IMAGE FREQ.

(29 to 54) + (2 x 257.5) = 544 to 569 MHz ..... IMAGE FREQ.

(108 to 174) + (2 x 257.5) = 623 to 689 MHz ..... IMAGE FREQ.

(380 to 512) + (2 x 257.5) = 895 to 1027 MHz ..... IMAGE FREQ.

These image frequencies are not included within the Cellular Radiotelephone Service Frequency Band.

2. The image frequencies in the frequency range from 806 to 811 MHz are shown as follows:

FR = 806 to 811 MHz

IF = 254 MHz

FR – 2 x IF = IMAGE FREQ.

(806 to 811) - (2 x 254) = 298 to 303 MHz ..... IMAGE FREQ.

These image frequencies are not included within the Cellular Radiotelephone Service Frequency Band.

3. The image frequencies in the frequency range from 811.0125 to 820.7375 MHz, 849 to 868.9875 MHz, and 894 to 960 MHz are shown as follows:

FR = 811.0125 to 820.7375 MHz, 849 to 868.9875 MHz, 894 to 960 MHz
IF = 257.5 MHz

FR – 2 x IF = IMAGE FREQ.

(811.0125 to 820.7375) – (2 x 257.5) = 296.0125 to 305.7375 MHz ..... IMAGE FREQ.

(849 to 868.9875) – (2 x 257.5) = 334 to 353.9875 MHz ..... IMAGE FREQ.

(894 to 960) – (2 x 257.5) = 379 to 445 MHz ..... IMAGE FREQ.

These image frequencies are not included within the Cellular Radiotelephone Service Frequency Band.

4. The image frequencies in the frequency range from 820.75 to 823.9875 MHz are shown as follows:

FR = 820.75 to 823.9875 MHz

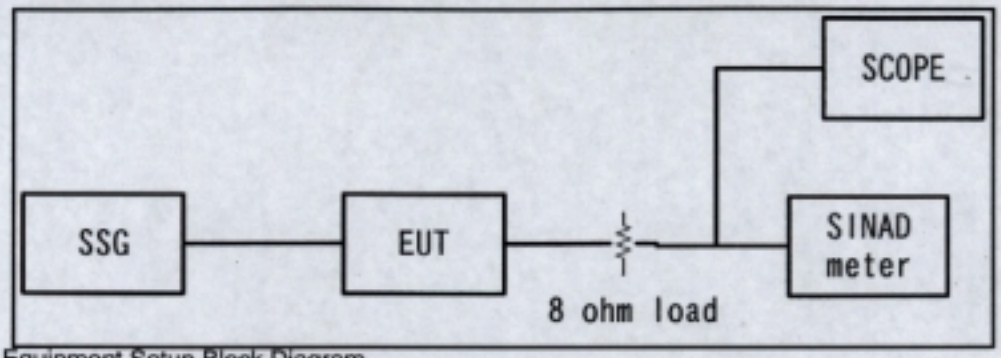
IF = 260 MHz

FR – 2 x IF = IMAGE FREQ.

(820.75 to 823.9875) - (2 x 260) = 300.75 to 303.9875 MHz ..... IMAGE FREQ.

These image frequencies are not included within the Cellular Radiotelephone Service Frequency Band.

The 12 dB SINARD measurement method in the Cellular Radiotelephone Service used for frequencies that the receiver tunes and the signal rejection ratio gained by the measurement.



Equipment Setup Block Diagram

Measurement method

Tune the receiver to the received frequency and output the receiving frequency from SG to obtain its 12 dB SINAD. Then output the interference frequency to obtain its 12 dB SINAD. The signal rejection ratio is the ratio between these two SSG output levels.

Test Results (1)

Frequency range (MHz)	Cellular frequency range included (MHz)	Received frequency (MHz)	Interference frequency (MHz)	Signal Rejection Ratio (dB)	Equation for interference frequency reception (MHz)
29.000 to 38.250	830.500 to 849.000	29.000 34.000 38.250	830.500 840.500 849.000	68 68 69	1st LO x 2 + IF = 830.500 1st LO x 2 + IF = 840.500 1st LO x 2 + IF = 849.000
48.250 to 54.000	869.000 to 880.500	48.250 51.000 54.000	869.000 874.500 880.500	71 69 69	1st LO x 2 + IF = 869.000 1st LO x 2 + IF = 874.500 1st LO x 2 + IF = 880.500
108.000 to 111.300	839.000 to 848.900	108.000 110.000 111.300	839.000 845.000 848.900	93 85 82	1st LO x 2 + FR = 839.000 1st LO x 2 + FR = 845.000 1st LO x 2 + FR = 848.900
118.000 to 126.300	869.000 to 893.900	118.000 122.000 126.300	869.000 881.000 893.900	70 65 63	1st LO x 2 + FR = 869.000 1st LO x 2 + FR = 881.000 1st LO x 2 + FR = 893.900
29.000 to 30.375	888.500 to 894.000	29.000 ----- 30.375	888.500 ------- 894.000	81 ----- 72	1st LO x 4 + FR = 888.500 ----- 1st LO x 4 + FR = 894.000

IF = 257.500 MHz

FR = received frequency

1st LO = FR + IF

Test Results (2)

Frequency range (MHz)	Cellular frequency range included (MHz)	Received frequency (MHz)	Interference frequency (MHz)	Signal Rejection Ratio (dB)	Equation for interference frequency reception (MHz)
952.7500 to 960.0000	824.0000 to 831.2500	952.7500 956.0000 960.0000	824.0000 827.2500 831.2500	56 56 56	FR – 1st IF/2 = 824.0000 FR – 1st IF/2 = 827.2500 FR – 1st IF/2 = 831.2500
819.6500 to 820.7375	824.0000 to 826.1750	819.6500 ----- 820.7375	824.0000 ----- 826.1750	62 ----- 65	1st LO x 2 – 2nd LO – 2nd IF = 824.0000 ----- 1st LO x 2 – 2nd LO – 2nd IF = 826.1750
849.0000 to 854.6500	882.7000 to 894.0000	849.0000 852.0000 854.6500	882.7000 888.7000 894.0000	67 67 66	1st LO x 2 – 2nd LO – 2nd IF = 882.7000 1st LO x 2 – 2nd LO – 2nd IF = 888.7000 1st LO x 2 – 2nd LO – 2nd IF = 894.0000
937.7000 to 950.2000	824.0000 to 849.0000	937.7000 944.0000 950.2000	824.0000 836.6000 849.0000	61 63 65	1st LO x 2 – 2nd LO x 2 + 2nd IF = 824.00 1st LO x 2 – 2nd LO x 2 + 2nd IF = 836.60 1st LO x 2 – 2nd LO x 2 + 2nd IF = 849.00

1st IF = 257.5 MHz
2nd IF = 21.4

FR = received frequency
1st LO = FR – 1st IF
2nd LO = 1st IF + 2nd IF

The above test results indicate that all the signal rejection ratios for the Cellular Radiotelephone Service band are higher than 38dB.

Label Requirement

The scanning receiver has a label affixed to the product shown on the attached drawing of the model label, which reads as follows:

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

Based on the above, we hereby attest that the equipment in question compiles fully with the provisions of §15.121 of FCC Rules.

M. Ishizuka

M. Ishizuka, Chief Engineer

TEST REPORT

0.0 **Summary of Test Results**

General Research of Electronics Inc. - Model: 20-522 (PRO-92)
FCC ID: AAO2000522

TEST	REFERENCE	RESULTS
Radiated Emission	15.109	Complies
Conducted Emission	15.107	Complies

We attest to the accuracy of this report:

Ollie Moyrong
Test Engineer

David Chernomordik
EMC Site Manager

1.0 **General Description**

1.1 Product Description

The General Research of Electronics, Inc. Model No.: 20-522 (PRO-92) is a scanning receiver.

Please refer to the attached users manual for more details.

A pre-production version of the sample was received on May 11, 1999 in good condition.

1.2 Related Submittal(s) Grants

This is an Application for Certification of a scanning receiver.

1.3 Test Methodology

Both AC mains line-conducted (if applicable) and radiated emission measurements were performed according to the procedures in ANSI C63.4 (1992). All measurements were performed in Open Area Test Sites. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Data Section"** of this Application.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is Site 1. This test facility and site measurement data have been fully placed on file with the FCC.

GRE GENERAL RESEARCH OF ELECTRONICS, INC.

SHIBA NO.3 AMEREX BLDG.
3-12-17 MITA, MINATO-KU
TOKYO, JAPAN 108-0073

TEL: 813-5439-3611
FAX: 813-5439-3644

Tokyo: Feb. 4, 1999

Reference No. 99003

SPECIFICATION

SUBJECT : 500 CHANNEL TRUNKING SYSTEM VHF/UHF PROGRAMMABLE AM/FM SCANNING RECEIVER
PRO-92 CAT. NO. 20-522

1. GENERAL

-1 Programmable channel : 500 channels (50 channels x 10 banks)
10 Limit search banks
1 Priority channel (any one channel selectable of 500 channels)
7 WX frequencies
(with 1050Hz alert and SAME system receiving)

-2 Receiving mode : AM, FM, FM-PL (CTCSS), FM-DPL (DCS), FM-LTR (EF Jonson), FM-MOT (Motorola) and EDACS (GE/Ericsson)

-3 Receiving system : Triple conversion PLL super heterodyne

1st IF 257.5MHz: the 1st Local OSC frequency for VHF and UHF Low/T Band employs upper side of receiving frequency range
: the 1st Local OSC frequency for UHF High Band employs lower side of receiving frequency range

2nd IF 21.4MHz : the 2nd Local OSC frequency employs upper side of 1st IF

3rd IF 455kHz : the 3rd Local OSC frequency employs lower side of 2nd IF

-4 Frequency range :

Freq.	Steps	Mode (Default)
29 - 54MHz	5.0kHz	FM
108 - 136.9875MHz	12.5kHz	AM
137 - 174MHz	5.0kHz	FM
380 - 512MHz	12.5kHz	FM
806 - 960MHz	12.5kHz	FM

Except cellular band : 824 - 848.9875MHz and 869 - 893.9875MHz

- cont'd -

PRODUCT DEVELOPMENT & MANUFACTURING

GENERAL RESEARCH OF ELECTRONICS, INC. Ref. No. 99003

-5	Search frequency step:	VHF Low and High	5, 10, 15, 20, 25, 30, 50, 100kHz
		Air and UHF	12.5, 25, 50, 100kHz
-6	WX frequencies	:	162.400, 162.425, 162.450, 162.475, 162.500, 162.525, 162.550MHz
-7	Scanning rate	:	25 channels/sec.
-8	Search rate	:	50 steps/sec.
-9	Display	:	LED back lit LCD with 12 characters and 4 Lines
-10	Zeromatic	:	Activates during search mode
-11	Audio output	:	240m watts
-12	Speaker	:	Built-in 36mm 8 ohms dynamic speaker
-13	Operating voltage	:	DC 9 volts "AA" cell x 6pcs.
-14	Ext. power or charge voltage	:	DC 9 volts
-15	Dimension	:	Approx. 61 (W) x 45 (D) x 160 (H) mm
-16	Weight	:	Approx. 280g without antenna and batteries
-17	Accessory	:	Rubber antenna, Owner's manual, Freq. guide, Cloning cable, Normal Batt. holder, Ni-cd Batt. holder and Belt clip
-18	Memory backup	:	No battery back-up required, EEPROM used

2. ELECTRICAL

			Nominal	Limit
-1	Frequency range	:	VHF Low	29-54MHz
			VHF Air	108-136.9875MHz
			VHF High	137-174MHz
			UHF Low	380-512MHz
			UHF High	806-960MHz

Except cellular band: 824.000 - 848.9875MHz and 869.000 - 893.9875MHz

GENERAL RESEARCH OF ELECTRONICS, INC. Ref. No. 99003

			Nominal	Limit
-2 Sensitivity :		VHF Low	0.3μV	1μV
FM : (S+N)/N=20dB		VHF Aircraft	0.3μV	1μV
DEV.: 3kHz at 1kHz		VHF High	0.5μV	2μV
		UHF Low/T	0.5μV	2μV
		UHF High	0.7μV	3μV
AM : (S+N)/N=20dB		VHF Low	1.0μV	3μV
MOD.: 60% at 1kHz		VHF Aircraft	1.0μV	3μV
		VHF High	1.5μV	5μV
		UHF Low/T	2.0μV	5μV
		UHF High	2.0μV	7μV
-3 Date decode sensitivity :		PL	0.5μV	2μV
PL, DL 350Hz dev.		DL	0.5μV	2μV
at 41, 154, 450, 860MHz				
LT, MO 350Hz dev.		LT (EF Jonson)	0.8μV	3μV
at 450, 860MHz		MO (Motorola)	0.5μV	2μV
ED		ED (GE/Ericsson)	2μV	4μV
at 450, 860MHz				
1050Hz Mod. 4kHz dev.		WX Alert	0.7μV	2μV
at 162.4MHz				
SAME 4kHz dev.		WX SAME	0.5μV	2μV
at 162.4MHz				
-4 Image ratio 1st IF image :		VHF Low at 40MHz	50dB	40dB
		VHF Air at 124MHz	55dB	45dB
		VHF High at 154MHz	55dB	45dB
		UHF Low at 450MHz	55dB	40dB
		UHF High at 860MHz	40dB	20dB
2nd IF image :		VHF High at 154MHz	55dB	45dB
-5 Attenuator :		VHF Low	20dB	17-24dB
		VHF Air	20dB	17-24dB
		VHF High	20dB	17-24dB
		UHF Low	15dB	10-20dB
		UHF High	13dB	8-18dB
-6 Squelch sensitivity (Band center)				
Threshold :		FM and AM	0.5μV	2μV
Tight: (S+N)/N :		FM	25dB	15dB
:		AM	20dB	10dB
-7 Selectivity :		-6dB	±10kHz	±14kHz
		-50dB	±18kHz	±25kHz
-8 Spurious rejection :		VHF High at 154MHz	40dB	30dB
(Except Primary image)				

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GENERAL RESEARCH OF ELECTRONICS, INC. Ref. No. 99003

				Nominal	Limit
-9	IF rejection	:	257.5MHz at 154MHz	60dB	40dB
			21.4MHz at 154MHz	100dB	80dB
-10	Acceptable radio frequency: displacement at EIA RS-204D			±6kHz	±3kHz
-11	Signal to noise ratio	:	29.000- 54.0000MHz	40dB	30dB
	AM and FM		108.000-136.9875MHz	40dB	30dB
	RF : 100μV		137.000-174.0000MHz	40dB	30dB
	DEV.: 3kHz at 1kHz		380.000-512.0000MHz	35dB	25dB
	MOD.: 60% at 1kHz		806.000-960.0000MHz	35dB	25dB
-12	Residual noise Vol. min. and Squelched	:		1mV	3mV
-13	Scanning rate	:		25ch/sec.	20-28ch/sec.
-14	Search rate	:		50 steps/sec.	40-55 steps/sec.
-15	Scan and Search delay time:			2sec.	1-3sec.
-16	Audio output (T.H.D. 10%) (8 ohms R Load. 1kHz)	:	RF input 100μV at 154MHz	240m watt	180m watt
-17	T.H.D. at 50mW	:	RF input 100μV at 154Mhz	1%	5%
-18	Audio max. power	:	RF input 100μV at 154MHz		
	8 ohm internal speaker			300m watt	220m watt
	32 ohm at headphone mono/stereo (each phone)			19mW/12.5mW	25m watt
-19	Audio frequency response at -6dB	:	RF input 100μV at 154MHz	380Hz	300Hz-480Hz
				2.0kHz	1.5kHz-3.0kHz
-20	Intermediate frequency	:	1st 257.5MHz		
			2nd 21.4MHz		
			3rd 455kHz		
-21	Current drain at 9 volts :				
	8 ohm internal speaker at 154MHz		Vol. Max.	180mA	220mA
			Squelch	90mA	110mA
-22	Charging current	:		65mA	50mA

Note: This specification is obtained AC 120V with model 20-188 power supply without the scanner on after ten hours.

-23 Birdies and step frequency: Under discussion when search

- 4 -

2.0 **System Test Configuration**

2.1 Justification

For emission testing, the equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). During testing, all cables were manipulated to produce worst case emissions.

For the measurements, the EUT is attached to a cardboard box (if necessary) and placed on the wooden turntable. If the EUT attaches to peripherals, they are connected and operational (as typical as possible). The EUT is wired to transmit full power without modulation.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Detector function is in peak mode. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance if measured at a closer distance..

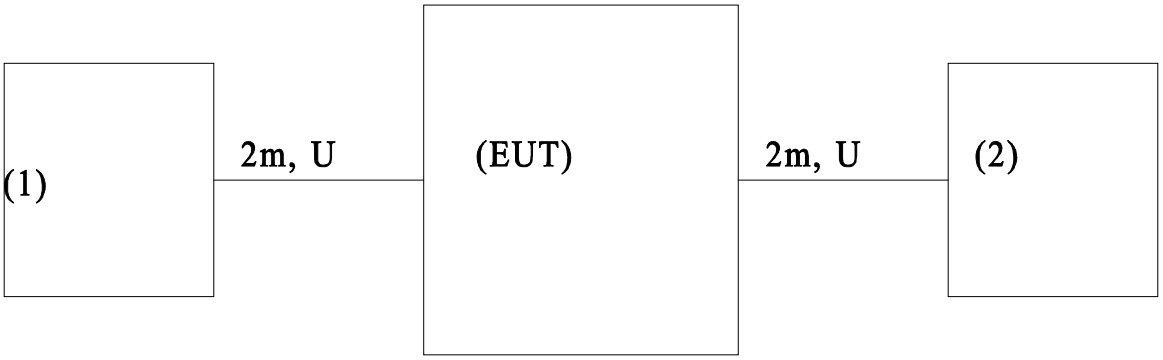
2.2 EUT Exercising Software

For emissions testing, the units were setup to receive continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing.

2.3 Support Equipment List and Description

a) The FCC ID's for all equipment used in the tested system (included inserted cards, which have grants) are:

Item #	Description	Model No.	Serial No.	FCC ID
2	Sony Headphones	N/A	N/A	N/A



1	Radio Shack AC Power Adapter	273-1662	9615	N/A

b) Equipment Setup Block Diagram

***** = EUT	**S** = Shielded;	**F** = With Ferrite

****** = No ferrites on video cable	**U** = Unshielded

2.4 Equipment Modification

Any modifications installed previous to testing by General Research of Electronics Inc. will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services.

3.0 **Emission Results**

AC line conducted emission measurements were performed from 0.45 MH to 30 MHz. Analyzer resolution is 10 kHz or greater.

Radiated emission measurements were performed from 30 MHz to 5000 MHz. Analyzer resolution is 100 kHz or greater for 30 MHz to 1000 MHz, 1 MHz for >1000 MHz.

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included. All measurements were performed with peak detection unless otherwise specified.

3.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG + DF

where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
DF = Distance Factor

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:

FS = RR + LF

where FS = Field Strength in dµV/m
RR = RA - AG in dBµV
LF = CF + AF + DF in dB

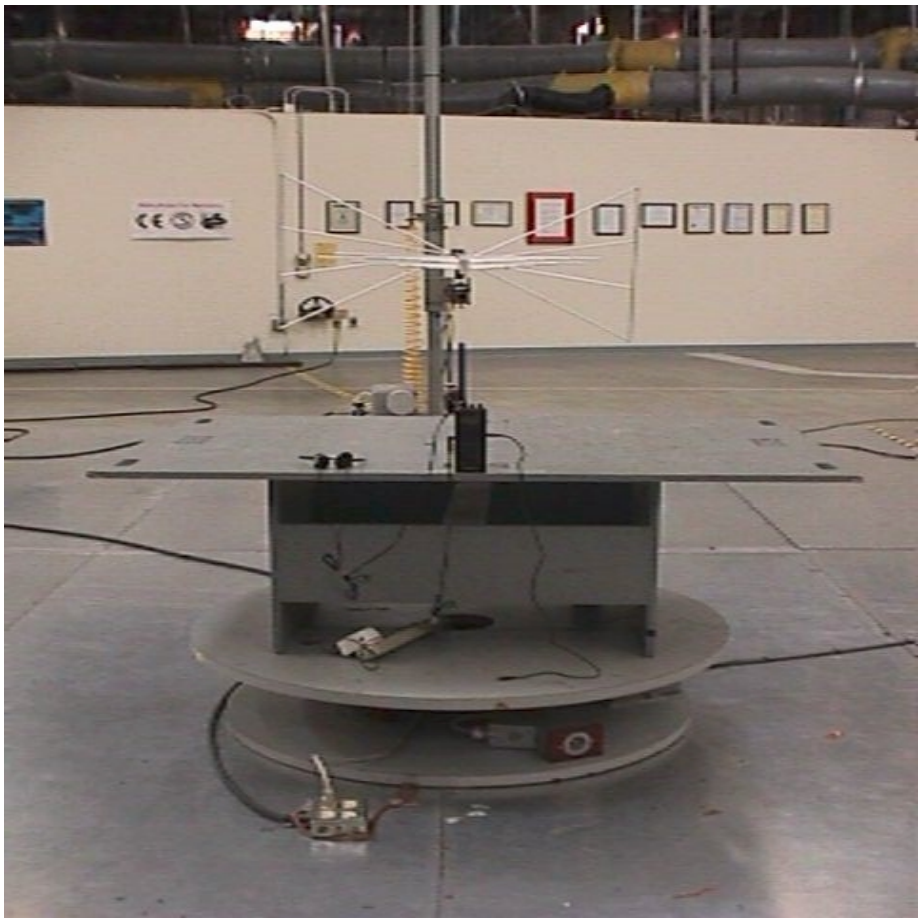
Assume a receiver reading of 52.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 52.0 dBµV DF = 0 dB
AF = 7.4 dB RR = 23.0 dBµV
CF = 1.6 dB LF = 9.0 dB
AG = 29.0 dB
FS = RR + LF
FS = 23 + 9 = 32 dBµV/m

Level in µV/m = Common Antilogarithm [(32 dBµV/m)/20] = 39.8 µV/m

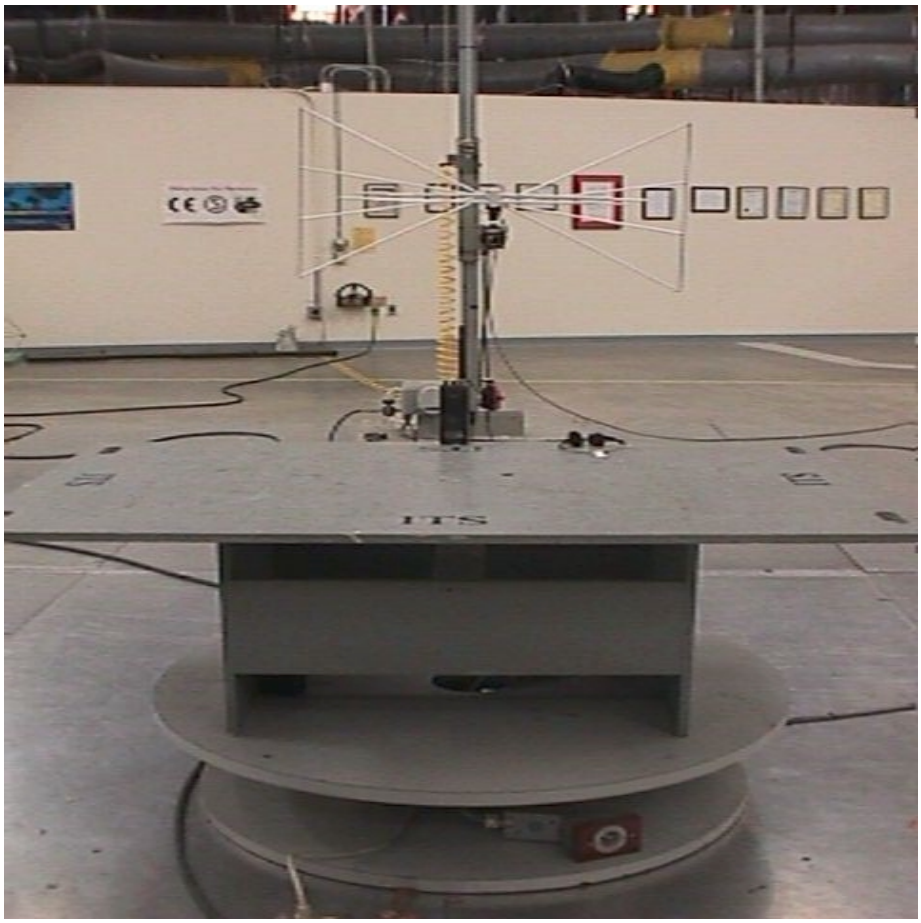
3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at 769.5 MHz



3.2 Radiated Emission Configuration Photograph - (Continued)

Worst Case Radiated Emission
At 769.5 MHz



3.3 Radiated Emission Data

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Judgement : Passed by 5.4 dB

ITS Intertek Testing Services

Company:	General Research of Electronics	Project #:	J9900
EUT:	Scanning Receiver	Date of Test:	May 12, 1999
Model:	20-522 (PRO-92)	Test Site #:	1
Test Mode:	Rx	Engineer:	Ollie Moyrong

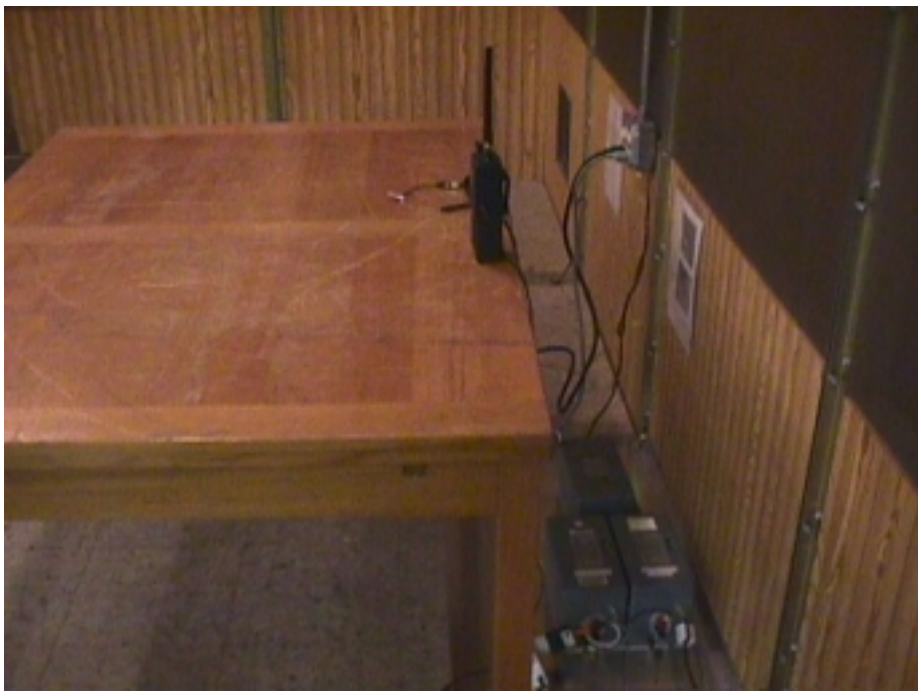
FCC Part 15.109 Class B Radiated Emissions

Tuned Frequency (MHz)	L.O. Frequency (MHz)	Antenna Location (m)	Antenna Polarization (H=0/V=1)	Reading (dBuV)	Antenna Factor (dB/m)	Preamp (dB)	Cable Loss (dB)	Corrected Reading dBuV/m	Limit At 3 m (dBuV/m)	Margin (dB)	
29.000	286.50	3.0	0	37.6	12.9	-22.5	0.5	28.5	46.0	-17.5	
39.500	297.00	3.0	0	35.5	13.7	-22.5	0.5	27.2	46.0	-18.8	
54.000	311.50	3.0	0	36.4	14.1	-22.6	0.5	28.4	46.0	-17.6	
108.000	365.50	3.0	0	39.4	15.6	-22.4	0.5	33.1	46.0	-12.9	
122.500	380.00	3.0	0	35.0	15.7	-22.4	0.5	28.8	46.0	-17.2	
136.988	394.49	3.0	1	35.4	15.9	-22.4	0.5	29.4	46.0	-16.6	
137.000	394.50	3.0	1	35.8	15.9	-22.4	0.5	29.8	46.0	-16.2	
154.000	411.50	3.0	0	35.4	16.3	-22.4	0.5	29.8	46.0	-16.2	
174.000	431.50	3.0	0	35.0	16.9	-22.5	0.5	29.9	46.0	-16.1	
380.000	637.50	3.0	0	37.4	20.3	-22.2	0.7	36.2	46.0	-9.8	
440.000	697.50	3.0	0	37.2	20.9	-22.3	0.7	36.5	46.0	-9.5	*
512.000	769.50	3.0	0	39.8	22.3	-22.2	0.7	40.6	46.0	-5.4	*
806.000	552.00	3.0	0	32.9	19.2	-22.2	1.5	31.4	46.0	-14.6	*
894.000	636.50	3.0	0	34.0	20.2	-22.1	1.5	33.6	46.0	-12.4	*
960.000	702.50	3.0	0	39.5	20.9	-22.2	1.5	39.7	46.0	-6.3	*

Notes: Negative signs (-) in the Margin column signify levels below the limit.
Readings followed by a '*' are Quasi-peak measurements.
All other readings are peak measurements.

3.4 AC conducted Emission Configuration Photograph

Worst Case Conducted Emission
at 0.52 MHz



3.5 Conducted Emission Data

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Judgement : Passed by 14.0 dB

ITS Menlo Park 13 May 1999 08:35:00

3. FCC CFR 47, Pt 15
   3.1 FCC, Pt 15 - AC LINE CONDUCTED

GENERAL RESEARCH OF ELECTRONICS
EUT: SCANNING RECEIVER
M/N: 20-522 (PRO-92)
[X] HOT, [ ] NEUTRAL, 115V 60Hz

PEAKS FOUND ABOVE 33 dBuV

PEAK#	FREQ (MHz)	AMPL(dBuV)
1	.6216	33.6
2	1.068	33.0
3	1.227	33.5
4	1.397	33.5
5	1.638	33.0
6	2.225	33.2
7	3.126	33.0
8	6.221	33.0
9	9.828	33.2
10	25.69	33.2

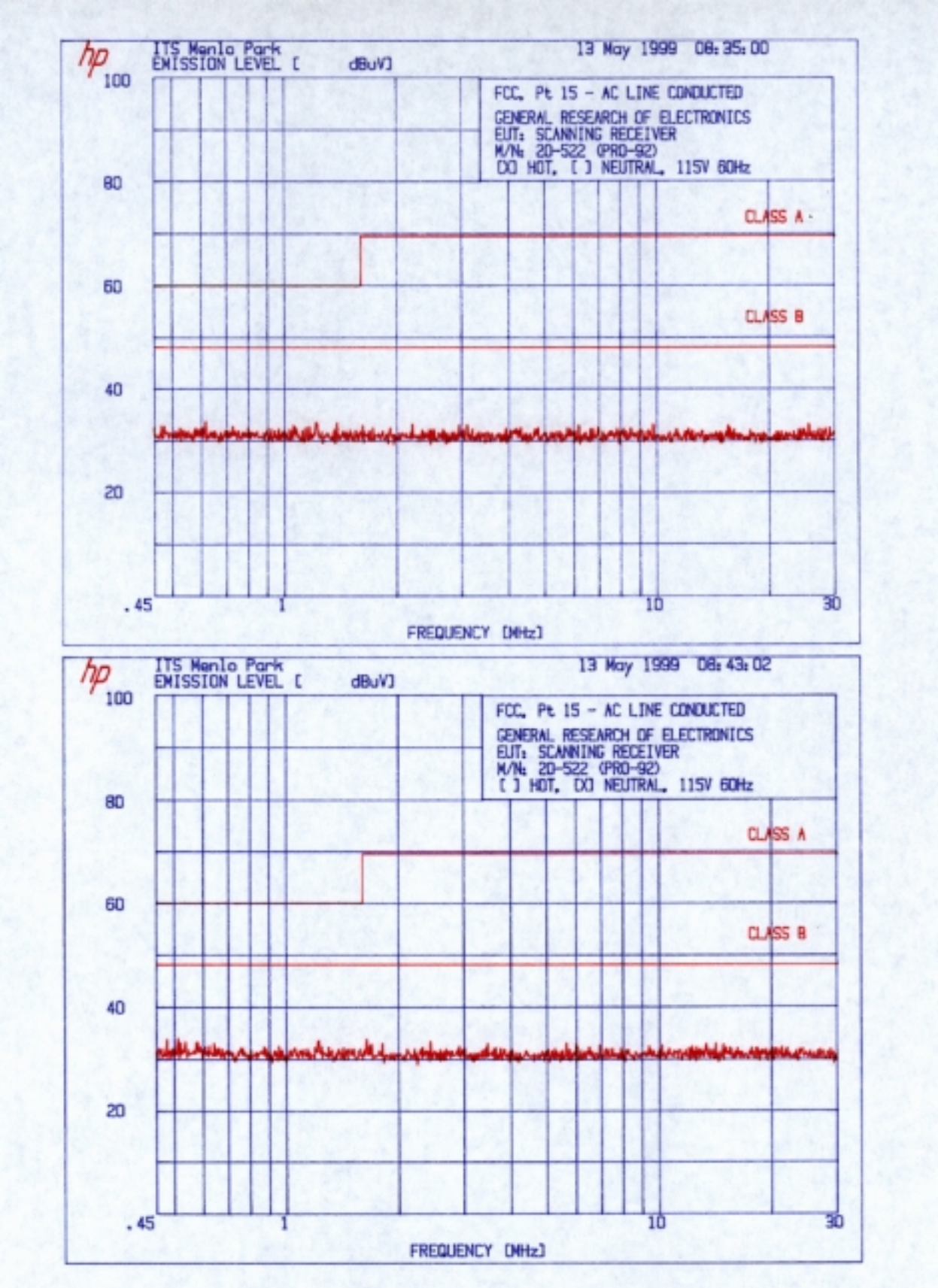
ITS Menlo Park 13 May 1999 08:43:02

3. FCC CFR 47, Pt 15
   3.1 FCC, Pt 15 - AC LINE CONDUCTED

GENERAL RESEARCH OF ELECTRONICS
EUT: SCANNING RECEIVER
M/N: 20-522 (PRO-92)
[ ] HOT, [X] NEUTRAL, 115V 60Hz

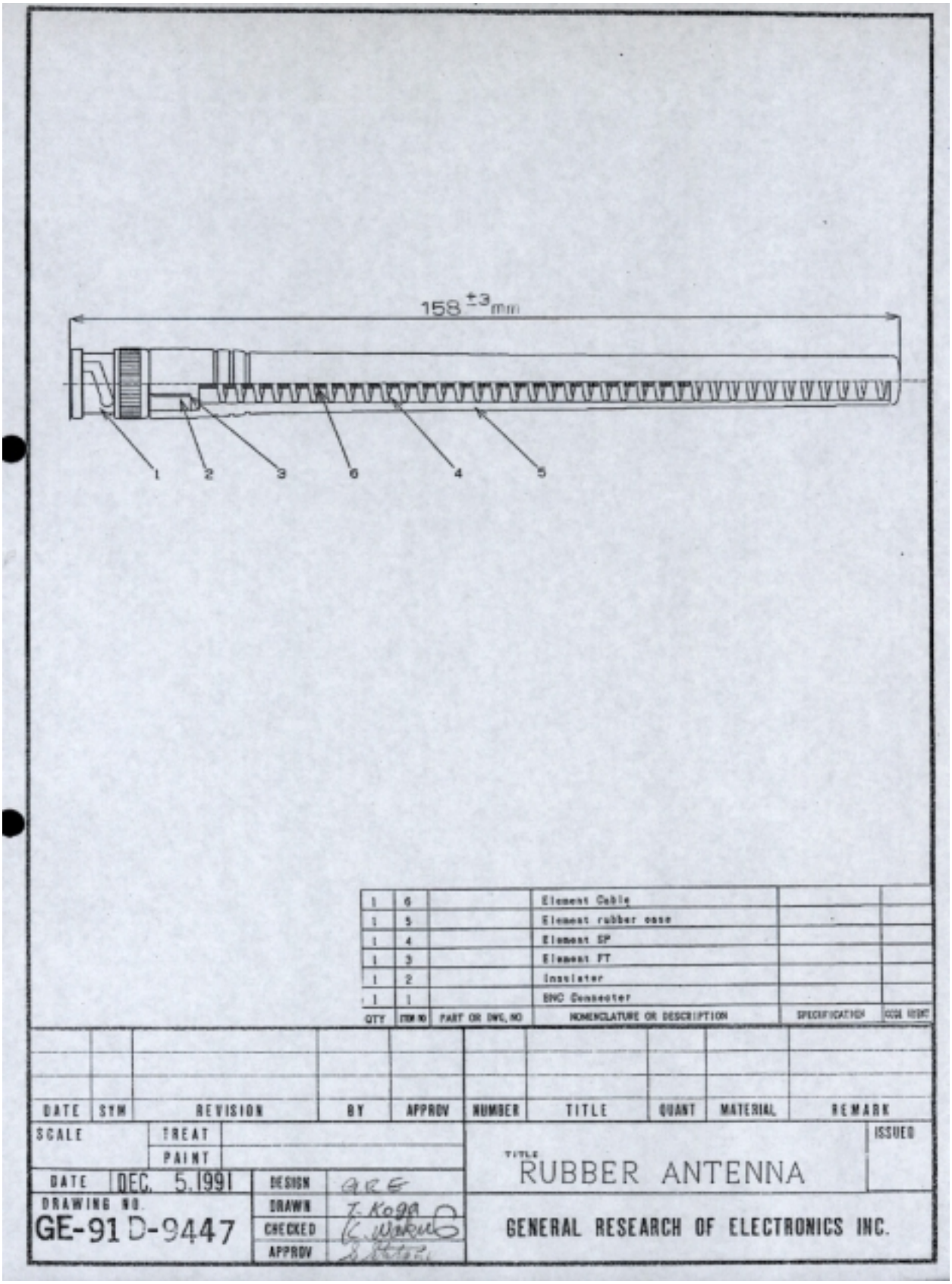
PEAKS FOUND ABOVE 33 dBuV

PEAK#	FREQ (MHz)	AMPL(dBuV)
1	.4833	33.8
2	.5168	34.0
3	.5412	33.3
4	.5837	33.3
5	.6455	33.1
6	1.232	33.6
7	1.652	33.8
8	1.820	33.0
9	2.451	33.4
10	3.487	33.0
11	5.672	33.1
12	6.015	33.0
13	14.22	33.0


ITS Menlo Park
13 May 1999 08:35:00
EMISSION LEVEL [dBuV]
FCC, Pt 15 - AC LINE CONDUCTED
GENERAL RESEARCH OF ELECTRONICS
EUT: SCANNING RECEIVER
M/N: 20-522 (PRO-92)
[X] HOT, [ ] NEUTRAL, 115V 60Hz
CLASS A
CLASS B
100
80
60
40
20
.45
1
10
30
FREQUENCY [MHz]
ITS Menlo Park
13 May 1999 08:43:02
EMISSION LEVEL [dBuV]
FCC, Pt 15 - AC LINE CONDUCTED
GENERAL RESEARCH OF ELECTRONICS
EUT: SCANNING RECEIVER
M/N: 20-522 (PRO-92)
[ ] HOT, [X] NEUTRAL, 115V 60Hz
CLASS A
CLASS B
100
80
60
40
20
.45
1
10
30
FREQUENCY [MHz]

4.0 **Antenna Requirement**

The antenna is affixed to the EUT using a unique connector that allows for replacement of a broken antenna, EUT does use a standard antenna jack or electrical connector.

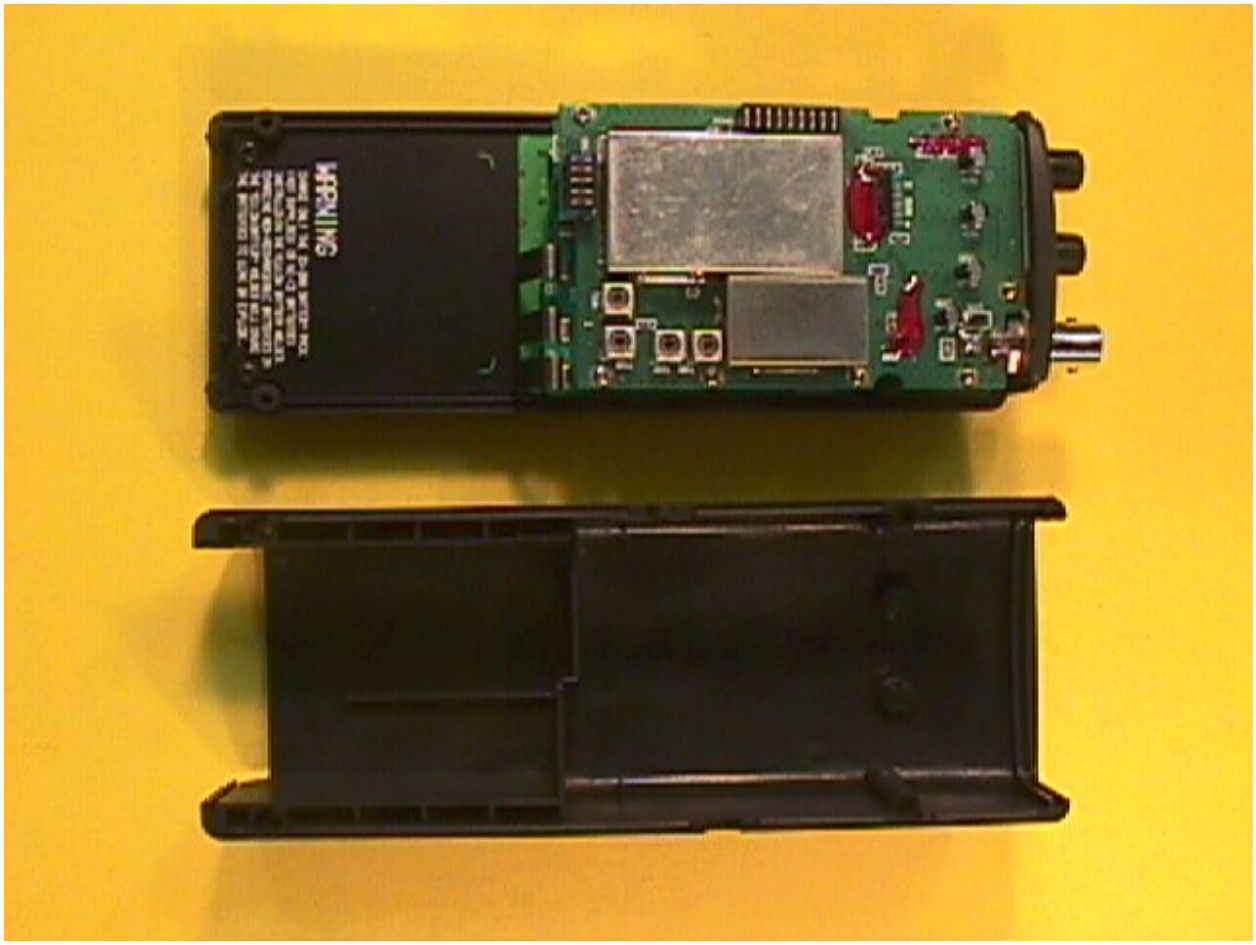

158 ±3 mm
1
2
3
6
4
5
1 6 Element Cable
1 5 Element rubber case
1 4 Element SP
1 3 Element FT
1 2 Insulator
1 1 BNC Connector
QTY ITEM NO PART OR IDNT. NO NOMENCLATURE OR DESCRIPTION SPECIFICATION CODE IDENT
DATE SYM REVISION BY APPROV
NUMBER TITLE QUANT MATERIAL REMARK
SCALE
TREAT
PAINT
ISSUED
DATE DEC. 5,1991
DESIGN GRE
DRAWN T. Koga
CHECKED K. Wakuda
APPROV
DRAWING NO. GE-91 D-9447
TITLE RUBBER ANTENNA
GENERAL RESEARCH OF ELECTRONICS INC.

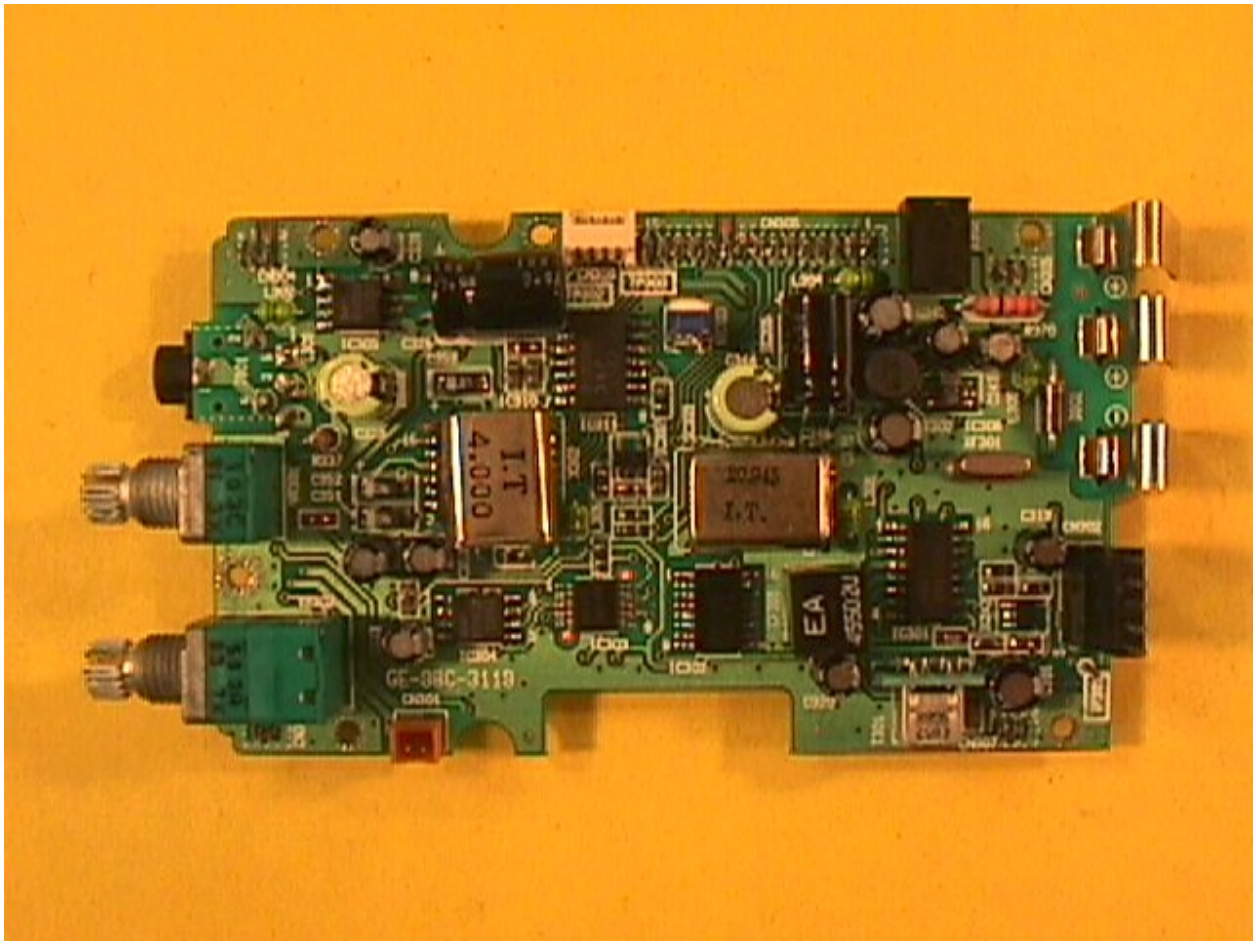
5.0 **Equipment Photographs**

Photographs of the EUT are attached.


000010


000010




4.000
I.T.
GE-08C-3119