THRUlab & Engrning.

RM1105,11FL, ACE TECHNO TOWER
197-22,GURO-DONG GURO-GU SEOUL KOREA
81221095059F81221095056 email thrukang@kornet.net

Test Report

Product Name: FM Pilot transmitter

FCC ID: QBTLTK-P1200

Applicant:

LEE TECHNOLOGY KOREA. Co.,Ltd.
24-2 Samjungdong, ohjunggu,
Puchoncity, Kyounggido,
Korea

Date Receipt: 12/10/2003

Date Tested: 12/29/2003

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APPLICANT: LEE TECHNOLOGY KOREA. Co.,Ltd.

FCC ID: QBTLTK-P1200

TEST REPORT:

EXHIBIT CONTAINING:

GENERAL INFORMATION

2.1033(c)(1)(2) LEE TECHNOLOGY KOREA.Co.,Ltd.will sell the FCC ID: QBTLTK-P1200 Radio Control transmitter in quantity, for use PART 95 SUBPART C.

LEE TECHNOLOGY KOREA.Co.,Ltd.
#24-2 samjungdong, ohjunggu, puchoncity,
Kyounggido,Korea.

2.1033(c)(3) Instruction manual is included as exhibit #4.

2.1033(4) Type of Emission: 6K4F1D

95.631 (b) (1)

Bn = 2M + 2DK
M = 4,800 Bits per second
D = 800 Hz (Peak Deviation)
K = 1

Bn = 2(4800/2) + 2(800)(1) = 4.8K + 1.6K = 6.4k
ALLOWED AUTHORIZED BANDWIDTH = 8.00 kHz.

95.633(b) Authorized Bandwidth 8 kHz for RC Transmitter

2.1033(c) (5) Frequency Range: 26.9950 MHz

95.623 (a) (6) Power Range and Controls: There are NO user Power controls.

(7) Function of each electron tube or semiconductor device or other active circuit device: See Exhibit #3.

(8) Maximum Output Power Rating: 1.905W Conducted.

(9) DC Voltages and Current into Final Amplifier:

FINAL AMPLIFIER ONLY

Vce = 12.0Volts DC

Ice = 0.86A.

Pin = 10.32Watts

2.1033(c)(10) Tune-up procedure. The tune-up procedure is included as Exhibit #9.

2.1033(c)(10) Complete Circuit Diagrams: The circuit diagram is included as part of Exhibit # 2.

(10) Description of all circuitry and devices provided for determining and stabilizing frequency is given in EXHIBIT #10.

2.1033(c)(11) The Equipment identification is shown as Exhibit #5.

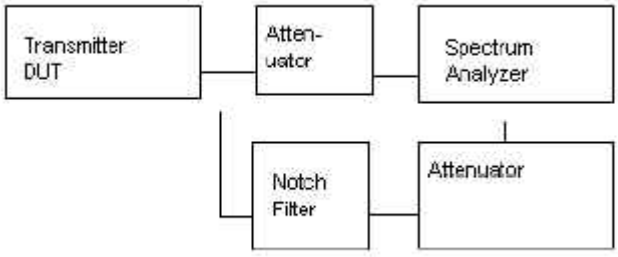
2.1033(c)(12) Photographs of the equipment are shown as Exhibits No. 7-8.

2.1033(c)(13) Equipment employing Digital modulation. N/A.

2.1033(c)(14) The data required by 2.1046-2.1057 follows;

2.1046 RF power is measured by the Conducted METHOD. There are no provisions to limit the power. With a nominal Power Supply voltage of 12.0 VDC, and the transmitter properly adjusted the RF output measures:
Po = 1.905 Watts Conducted.

2.1046 RF power output.



CARRIER FREQUENCY [MHz]	SPECTRUM ANALYZER [dBm]	ATTEN [dB]	Reading Value [dBm]	CONDUCTED OUTPUT POWER [W]	LIMIT [W]
26.995	-3.2	36	32.8	1.905	4

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APPLICANT: LEE TECHNOLOGY KOREA. Co.,Ltd

FCC ID: QBTLTK-P1200

NAME OF TEST: POWER LINE CONDUCTED INTERFRENCE

RULES PART NUMBER: 15.207

MINIMUM REQUIREMENTS :

FREQUENCY MHz	dBuV
0.15-0.5	66-56
0.5-5	56
5-30	60

TEST RROCEDURE : ANSI STANDARD C63.4 - 1992

THE HIGHEST EMISSION READ FOR LINE 1 WAS 46.5 dBuV @ 24.58 MHz

THE HIGHEST EMISSION READ FOR LINE 2 WAS 46.7 dBuV @ 25.69 MHz

THE GRAPHS ARE ON THE FOLLOWING PAGES REPRESENT THE EMISSIONS READ FOR POWERLINE CONDUCTED FOR THIS DEVICE.

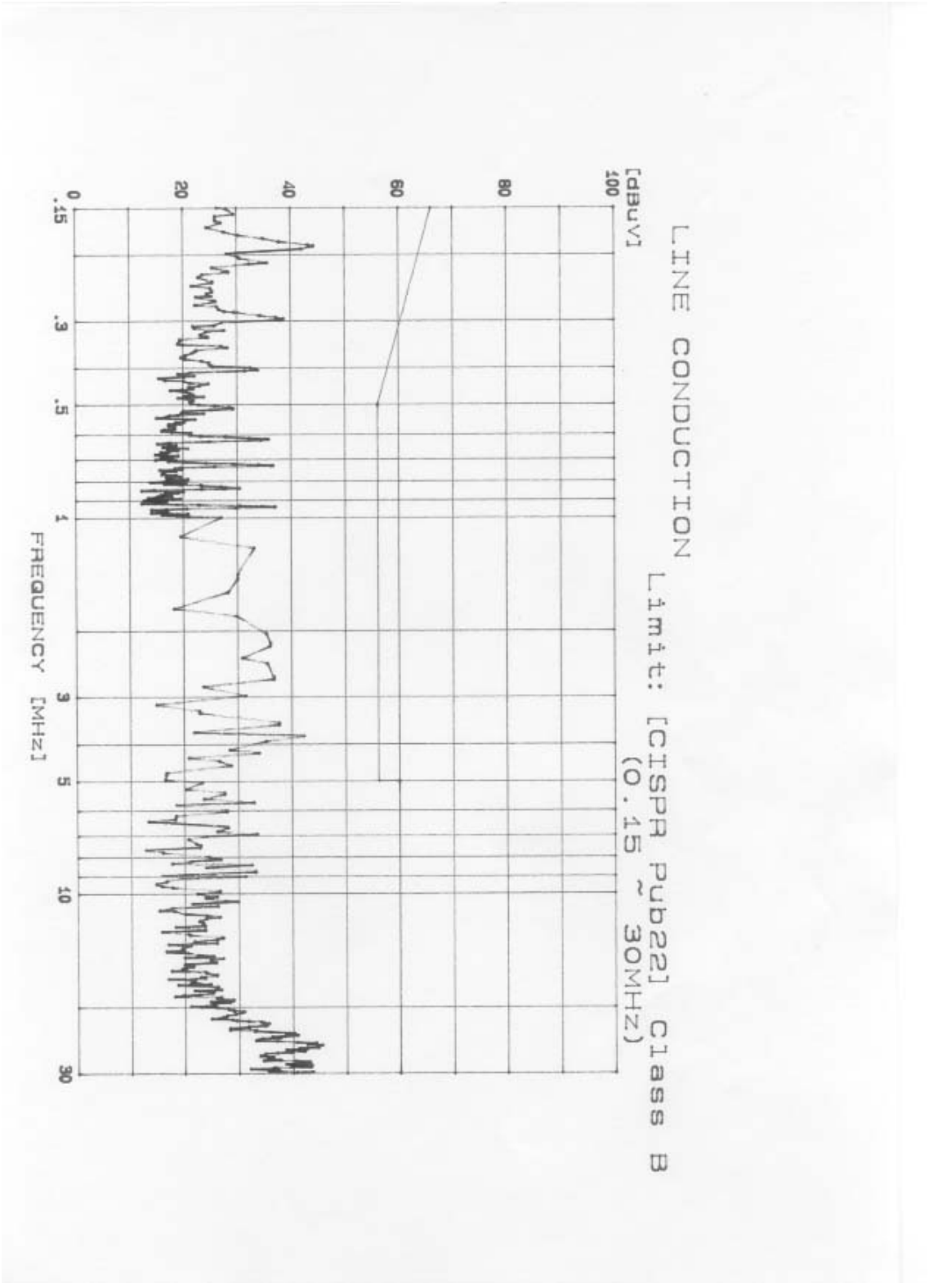
AC Adaptor: MODEL:TY-4000 (Tae Young Electronics co.,LTD.)
INPUT:100-240 VAC 1.0A 50/60Hz
OUTPUT:12V-2.5A

TEST RESULTS: Both lines were observed with UUT transmitting.

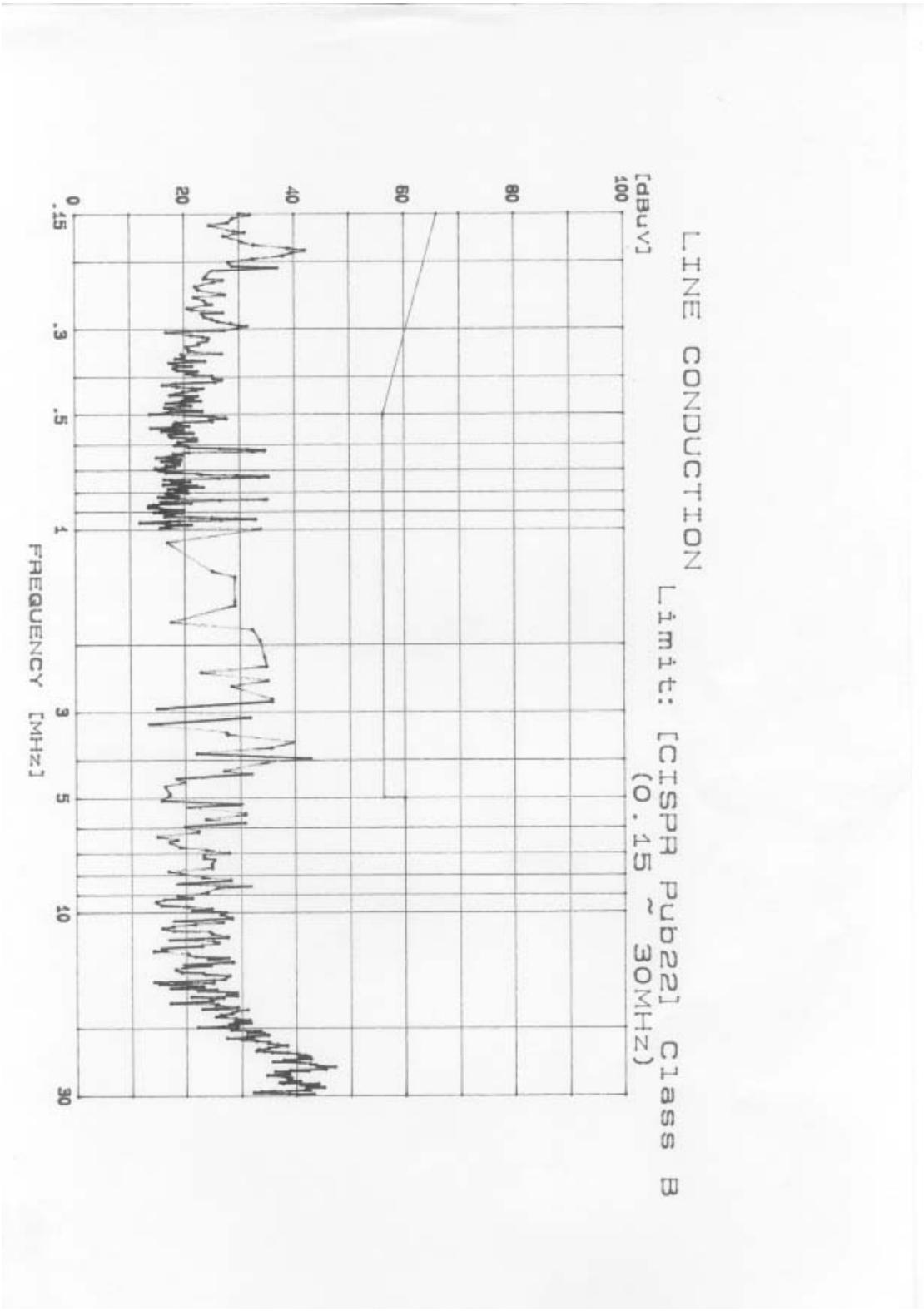
The measurements indicate that the unit DOES appear to meet the FCC requirements for this class of equipment

PERFORMED BY :K.M CHOI DATE: 12/17/03

LINE1


LINE CONDUCTION
Limit: [CISPR Pub22] Class B
(0.15 ~ 30MHz)
[dBuV]
0
20
40
60
80
100
FREQUENCY [MHz]
.15
.3
.5
1
3
5
10
30

LINE2


LINE CONDUCTION
Limit: [CISPR Pub22] Class B
(0.15 ~ 30MHz)
[dBuV]
100
80
60
40
20
0
.15
.3
.5
1
3
5
10
30
FREQUENCY [MHz]

2.1047 **Modulation characteristics:**

AUDIO FREQUENCY RESPONSE
Voice is NOT allowed in this band.

2.1049 **Occupied bandwidth:**
95.635 (b)

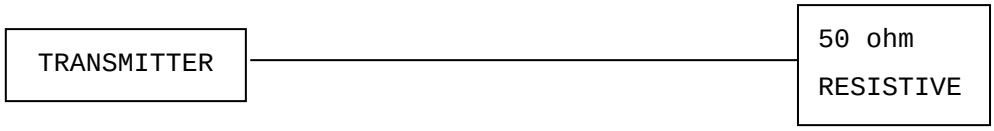
(1) At least 25dB on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.

(3) At least 35 dB on any frequency removed from the center of the authorized bandwidth by more than 100% up to and including 250% of the authorized bandwidth.

(7) At least 43 + 10 log10 (T) dB on any frequency removed from the center of the authorized bandwidth by more than 250%.

R/C Transmitter with Modulation Limiter
Test Procedure Diagram

OCCUPIED BANDWIDTH MEASUREMENT



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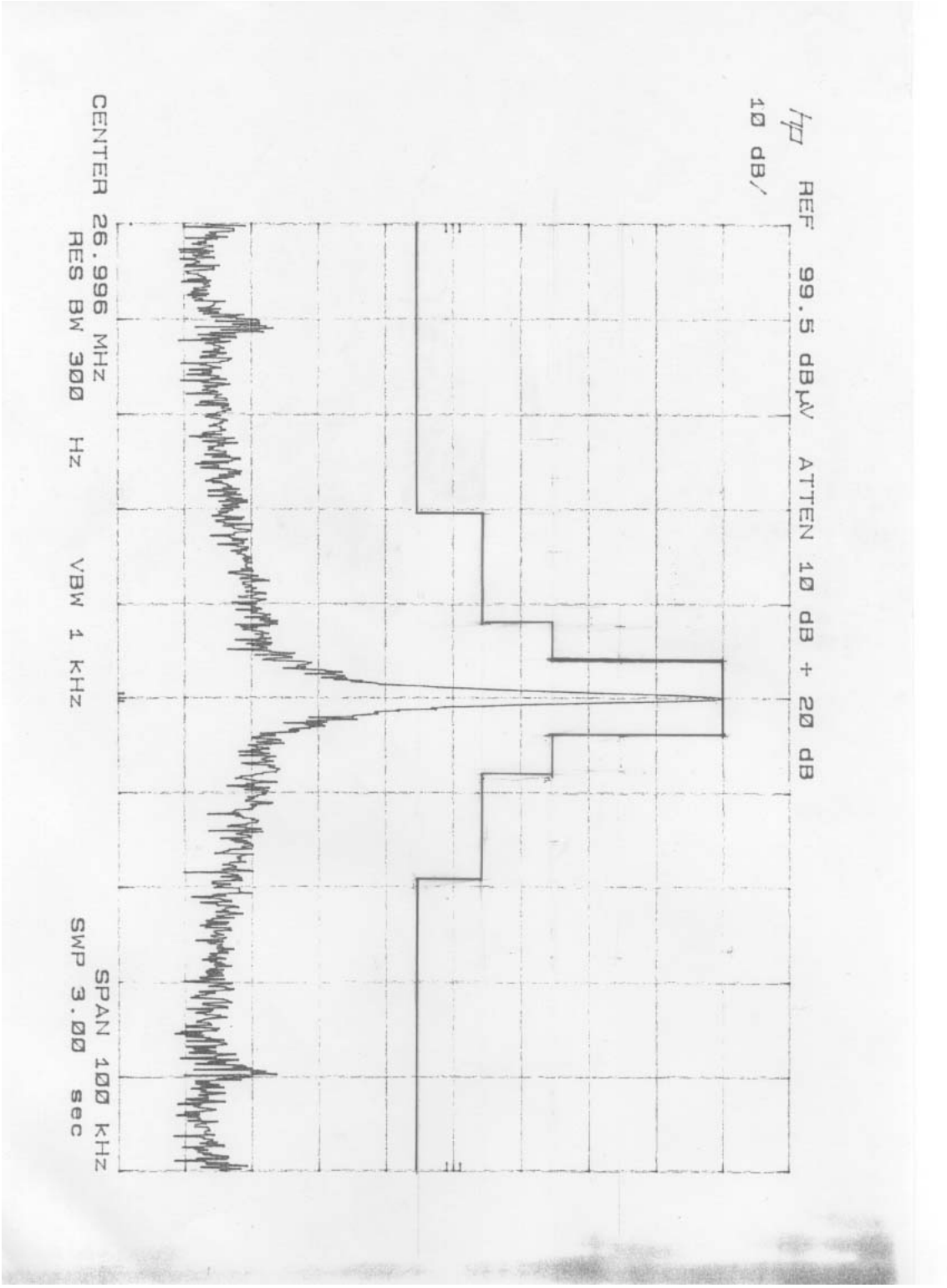
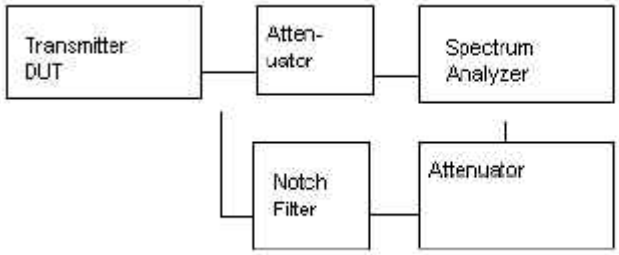
OCCUPIED BANDWIDTH PLOT



2.1051 SPURIOUS EMISSIONS AT ANTENNA TERMINALS:

The following data shows the level of conducted spurious responses at the antenna terminal. The test procedure used was TIA/EIA 603 with the exception that the emissions were recorded in dBc. The spectrum was scanned from 0.4 MHz to at least the 10th harmonic of the fundamental.



2.1051 Spurious emissions at the Antenna Terminals

NAME OF TEST: SPURIOUS EMISSIONS AT ANTENNA TERMINALS

REQUIREMENTS: Emissions must be 43+10log(Po) dB below the mean power output of the transmitter.

43 + 10log(1.95) = 45.79 dB or 60dB Whichever is

the lesser.

CARRIER FREQUENCY [MHz]	dB Below Carrier [dBC]	Reading Value dBm
26.99	0	32.8
53.98	57.7	-24.9
80.97	70.5	-37.7
107.96	52.1	-19.3
134.95	73.9	-41.1
161.94	83.6	-50.8
188.93	87.0	-54.2
215.92	91.5	-58.7
242.91	88.3	-55.5
269.99	89.8	-57

2.1053 UNWANTED RADIATION:
95.635(1)(3)(7)

REQUIREMENTS:

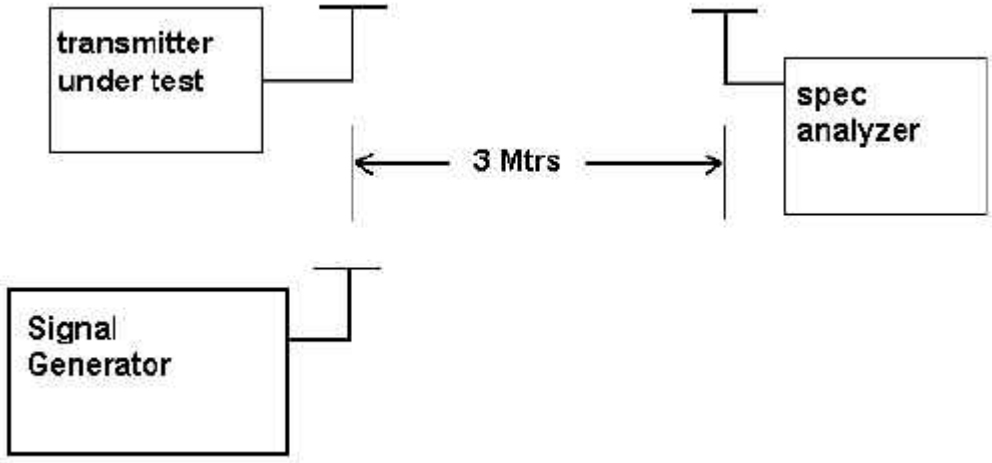
At least 43 + 10log(T) on any frequency removed from the center of the authorized bandwidth by more than 250%.
43 + 10log(1.905) = 45.79 dB

TEST DATA:

CARRIER FREQUENCY MHz	Reading Value [dBuV/m]	ANT Factor [dB]	CABLE LOSS [dB]	ATTEN [dB]	RESULT [dBuV/m]	ATTN dBc	dBm
26.99	98.4	14.5	0.3	10	123.20	0	25.94
53.98	41.9	9.54	0.90	10	62.34	60.86	-34.92
80.97	27.4	8.30	1.20	10	46.90	76.30	-50.36
107.96	35.1	11.06	1.60	10	57.76	65.44	-39.50
134.95	38.6	13.88	1.90	10	64.38	58.82	-32.88
161.94	18.4	16.93	2.00	10	47.33	75.87	-49.93
188.93	30.9	13.63	2.30	10	56.83	66.37	-40.43
215.92	25.0	10.75	2.6	10	48.35	74.85	-48.91
242.91	21.6	11.37	2.9	10	45.87	77.33	-51.39
269.99	12.4	14.16	3.1	10	39.66	83.54	-57.60

METHOD OF MEASUREMENT: The procedure used was C63.4-1992. The unit was operating into its permanently attached antenna at a height of 80 cm. The spectrum was scanned from 30 to at least the tenth harmonic of the fundamental using a HP model 8566B spectrum analyzer and an appropriate antenna. Measurements were made at the open field test site of ThruLab & ENGINEERING. located at RM1105 11FL ACE TECHNO TOWER 192-22, GURO-DONG GURO-GU

Method of Measuring Radiated Spurious Emissions



2.1055(a)(1) Frequency stability:
95.623(b)

Temperature and voltage tests were performed to verify that the frequency remains within the .005%, 50-ppm specification limit. The test was conducted as follows:
The transmitter was placed in the temperature chamber at 25 degrees C and allowed to stabilize for one hour. The transmitter was keyed ON for one minute during which four frequency readings were recorded at 15-second intervals. The worse case number was taken for temperature plotting. The assigned channel frequency was considered to be the reference frequency. The temperature was then reduced to –30 degrees C after which the transmitter was again allowed to stabilize for one Hour. The transmitter was keyed ON for one minute, and again frequency readings were noted at 15-second intervals. The worst-case Number was recorded for temperature plotting. This procedure was repeated in 10 degree increments up to + 50 degrees C.

Readings were also taken at plus and minus 15% of the specifid the voltage of 12.0VDC.

MEASUREMENT DATA

REFERENCE FREQUENCY: 26.9950

Temperature Frequency stability

	FRQUENCY	ppm	LIMIT
-30	26.9957	25.93	50
-20	26.99571	26.30	50
-10	26.99561	22.59	50
0	26.99586	31.85	50
10	26.99588	32.59	50
20	26.99586	31.85	50
30	26.99589	32.96	50
40	26.99588	32.59	50
50	26.99586	31.85	50
+15%	26.99591	33.70	50
-15%	26.99588	32.59	50

RESULTS OF MEASUREMENTS: The maximum frequency variation over the temperature range was 25.93 to 33.70ppm.

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Voltage Frequency stability

Voltage	FRQUENCY	ppm	LIMIT(ppm)
9	26.99591	33.70	50
9.5	26.99591	33.70	50
10	26.99601	37.41	50
10.5	26.99589	32.96	50
11	26.99588	32.59	50
11.5	26.99589	32.96	50
12	26.99588	32.59	50
12.5	26.99588	32.59	50
13	26.99587	32.22	50
13.5	26.9959	33.33	50
13.8	26.99588	32.59	50

RESULTS OF MEASUREMENTS: The maximum frequency variation over the temperature range was 32.22 to 33.96ppm.

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Test Equipment List

DEVICE	MODEL	MFGR	SERNO	DUE.CAL
EMI Test Receiver	ESVS 10	Rohde & Schwarz	830489/001	2004.04.25.
Spectrum Analyzer	8566B	Hewlett Packard	2311A02394	2004.03.17
Spectrum Display	85662A	Hewlett Packard	2542A12429	2004.03.17
Quasi-Peak Adapter	85650A	Hewlett Packard	2521A00887	2004.03.17
RF Preselector	85685A	Hewlett Packard	2648A00504	2004.03.17
Pre-Amplifier	8449B	Hewlett Packard	3008A00375	2004.03.17
Pre-Amplifier	8447F	Hewlett Packard	3113A05367	2004.03.17
Spectrum Monitor	EZM	Rohde & Schwarz	862304/007	2004.03.17
Bico-Antenna	94455-1	Eaton	977	2004.03.17
Log-Periodic Antenna	3146	EMCO	2051	2004.03.17
Dipole Antenna	TDA25/1/2	Electro Metrics	176/200/200	2004.03.17
Horn Antenna	SAS-571	A.H Systems	414	2004.03.17
Spectrum Analyzer	R3261C	Advantest	71720189	2004.04.26
LISN	KNW-242	Kyoritsu	8-923-2	2004.07.12
LISN	8012-50-R-24	Solar	8379121	2004.07.12
Loop Ant	6507	EMCO	1435	2004.10.06