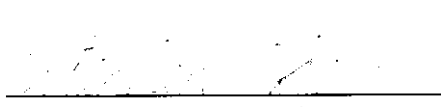
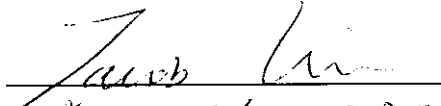
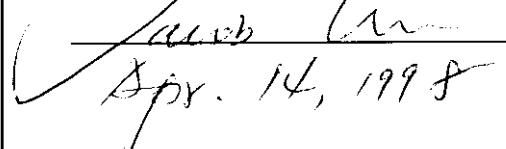


EXHIBIT C

Test Report

Report No.	I0115491
Specifications	FCC Part 15 - Certification
Test Method	ANSI C63.4 1992
Applicant address	41, Man Yue St., Kaiser Estate Block C, 9/F Hung Hom, Hong Kong, PROC
Applicant Items tested Model No.	Integrated Display Technology Ltd. 25-Channel Cordless Telephone 2-9767(XXXX)
Results Sample received date	As detailed within this report 12 / 11 /1997 (month / day / year)
Prepared by	 project engineer
Authorized by	 Vice General Manager (Jacob Lin)
Issue date	 Apr. 14, 1998 (month / day / year)
Modifications	PAGE 33
Tested by	Training Research Co., Ltd.
Office at	2F, No. 571, Chung Hsiao E. Road, Sec.7, Taipei, Taiwan
Open site at	No. 5-3, Lane 21, Yen Chiu Yuan Rd., Sec.4, Taipei Taiwan

Conditions of issue:

- (1). ***This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.***
- (2). ***This report must not be used by the client to claim product endorsement by NVLAP or nay agency of U.S. Government.***

★ **FCC ID :KT52-9767**

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Chapter 1 Introduction

Description of EUT :

This is a 25-channel cordless telephone with caller ID device which is normally used at home with RJ11C jack. It contains some features as blow:

- Call waiting .
- Reviewing messages .
- 25 caller ID and 5 VIP records .

Connections of EUT :

While testing, the **Base's jack** connected to a outside PABX simulator via a 15' RJ11C telephone cable. And the antenna of handset and base are fully extended and keep the same positions .

Handset put in the center of test box, and the base is nearby in this box.

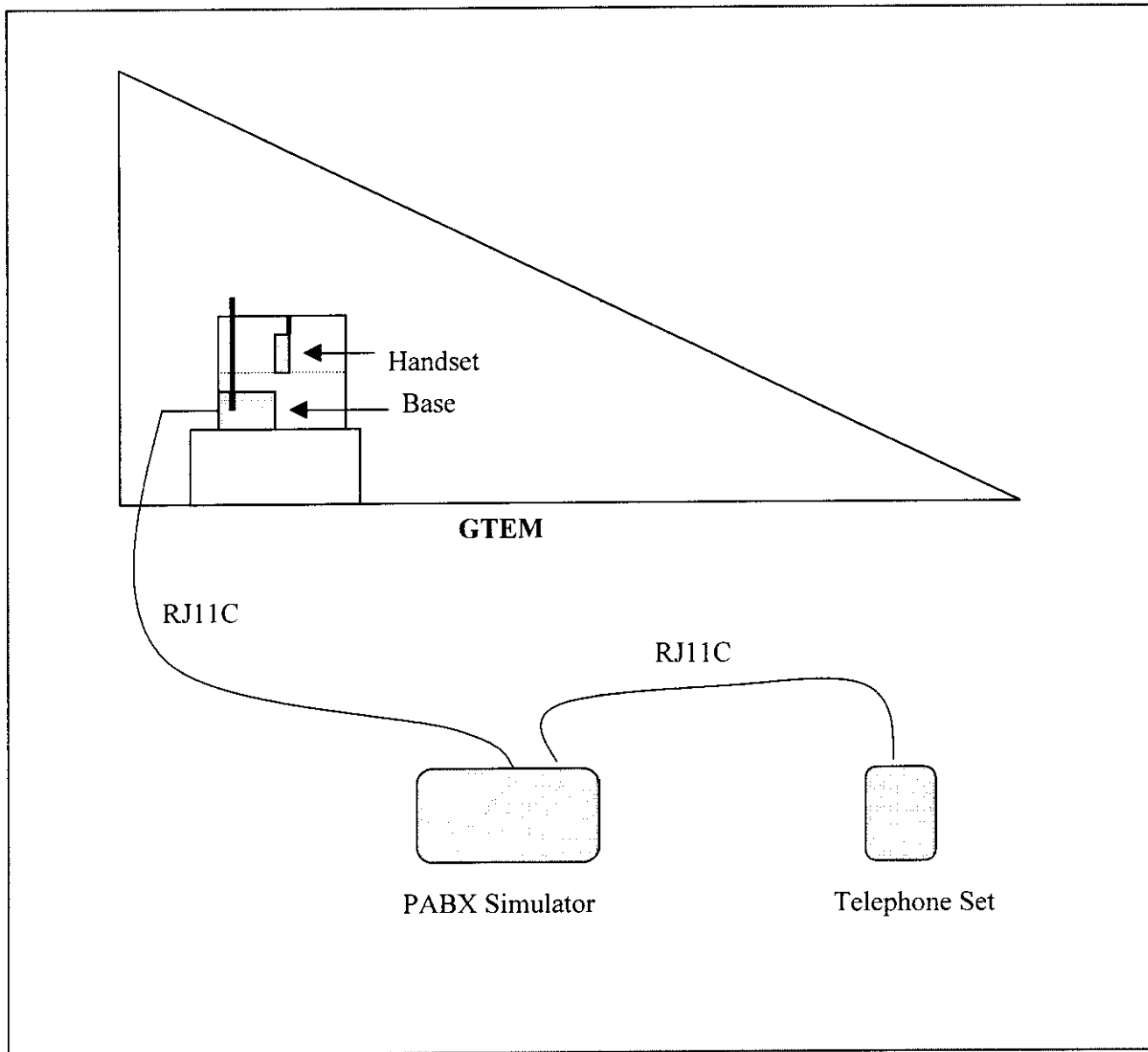
The other terminal of outside PABX is also connected with a telephone set via a 7' RJ11C telephone cable.

All the telephone cables are non-shielded .

Test method :

- (1) Conducted test : (Base only)
The base and handset is in the link mode .
- (2) Radiated test :
Handset and Base are tested separated by each channel 1 and 25 .

Configuration of test setup



Connections :

*Line jack of base --- PABX Simulator

List of support equipment

PABX : **King Design**
Model No. : KD8705-A
Serial No. : GV101101186
Power type : 110 VAC 50/60Hz
Power cord : Non - Shielded

Description of automatic channel selection mechanism :

Questions:

- (1) Does the device check both frequencies in the channel it attempts to link to ?
- (2) How many channels does the device attempt to link to ?
- (3) What happens when all of the channels are busy ?
- (4) When the device finds a busy channel, does it scan both frequencies in the next channel that attempting to link to ?

Answers:

- (1) Yes.
- (2) 4 CH.
- (3) Stay in current channel .
- (4) Yes. It will scan 4 channels (current channel and next three channels).

Note : There is an attached flow chart of automatic channel selection in the last page .

Chapter 2 Conducted emission test

Test condition and setup :

All the equipment is placed and setup according to the ANSI C63.4 - 1992 .
The EUT is assembled on a wooden table which is 80 cm high , is placed 40 cm from the back-wall which is a vertical conducting plane . LISN 1 is for EUT , LISN 2 is for support equipment. They are all placed on the conductive ground .The EUT's LISN connect a line switch box for selecting L1 or L2 ,then connect to a preamplifier and spectrum.

The spectrum scans from 450KHz to 30MHz . Conducted emission levels are detected at max. peak mode . But if the max. peak mode failed ,it will be measured by CISPR's quasi-peak detection mode .

List of test Instrument :

<u>Instrument Name</u>	<u>Model No.</u>	<u>Brand</u>	<u>Serial No.</u>	<u>Last time</u>	<u>Next time</u>
Spectrum analyzer	8591A	H P	2919A00263	12/02/96	12/02/97
LISN (EUT)	3825/2	EMCO	9411-2284	05/15/97	05/15/98
LISN (Support E.)	3825/2	EMCO	9210-2007	05/15/97	05/15/98
Preamplifier	8447F	H P	2944A03706	05/13/97	05/15/98
Line switch box	AC1-003	TRC	-----	05/15/97	05/15/98
Line selector	AC1-002	TRC	-----	05/15/97	05/15/98

Test result : Pass (Appendix A)

Chapter 3 Radiated emission test

Test condition and setup :

The final test of EUT is in a shielded enclosure ,GTEM, and scan from 30MHz to 1GHz. The test mode is peak value and the RB=1MHz ,VB=1MHz , Span= 100MHz. This is done to ensure the radiation exactly emits form the EUT.

While doing the measurement, the EUT and all connecting terminal is placed in a wooden box as fig.1 . The central of the wooden box is put at 0.75M height as fig.2 . Choose the right side , top side and front side of the box as X,Y,Z. Turn the wooden box to get radiated emission from three positions . The way to turn the wooden box is as fig.3.

The placement of EUT :

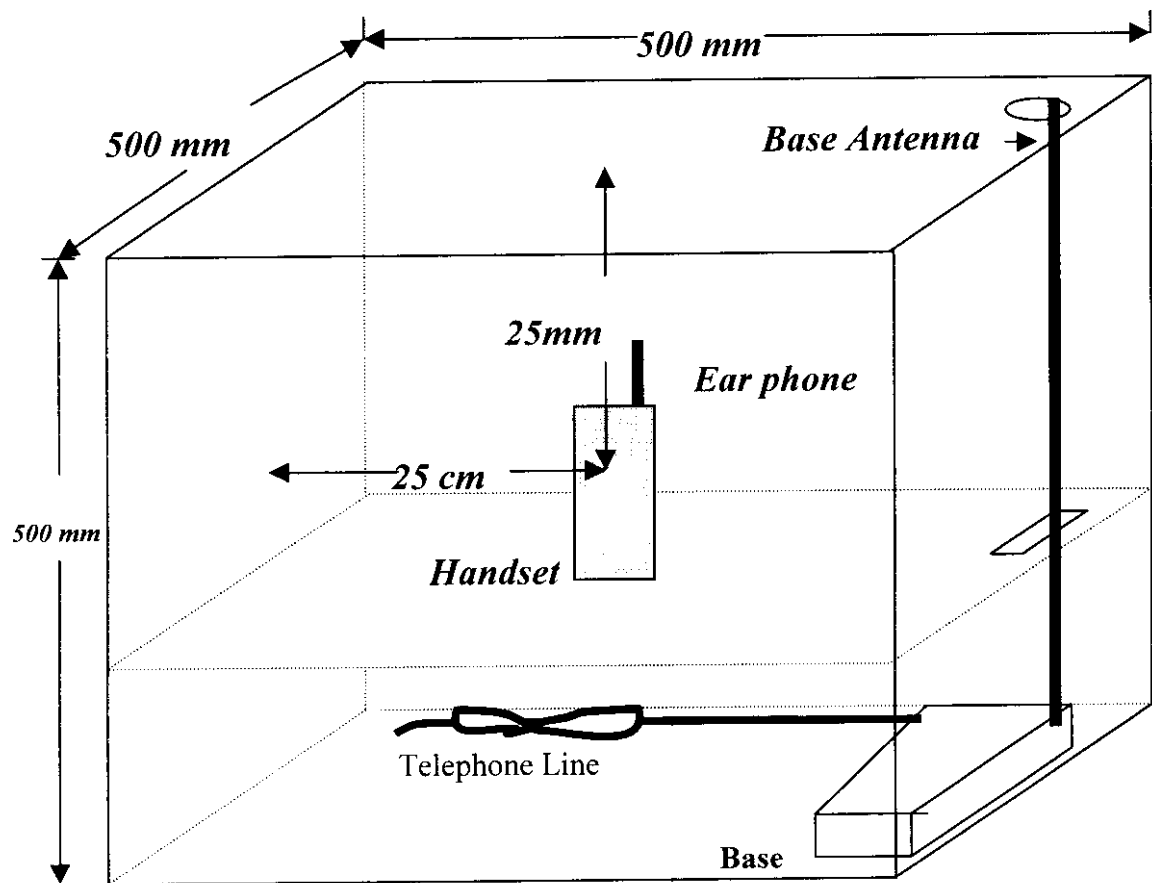


Figure. 1 Placement in Wooden Box

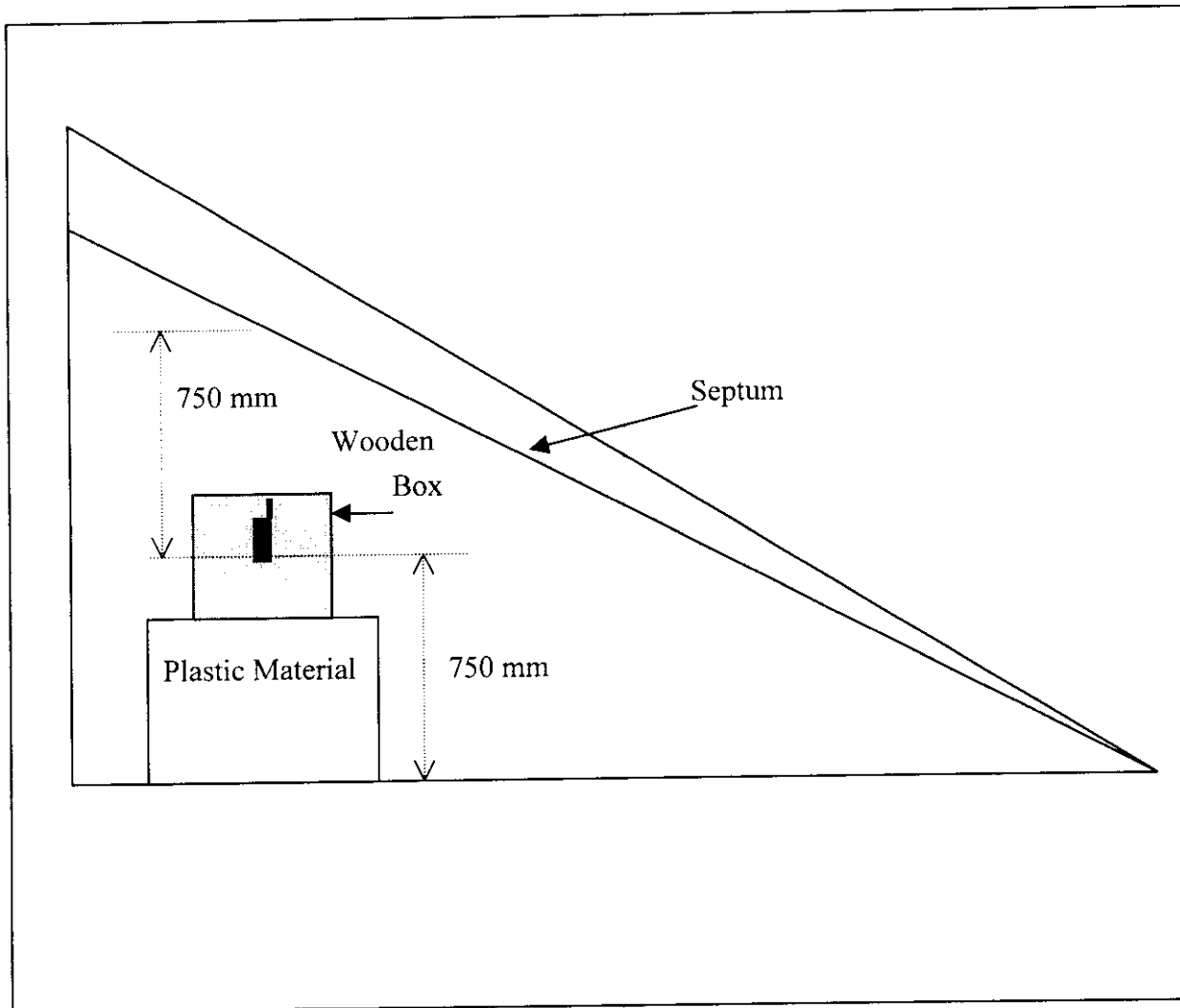


Figure . 2. Test Placement in GTEM

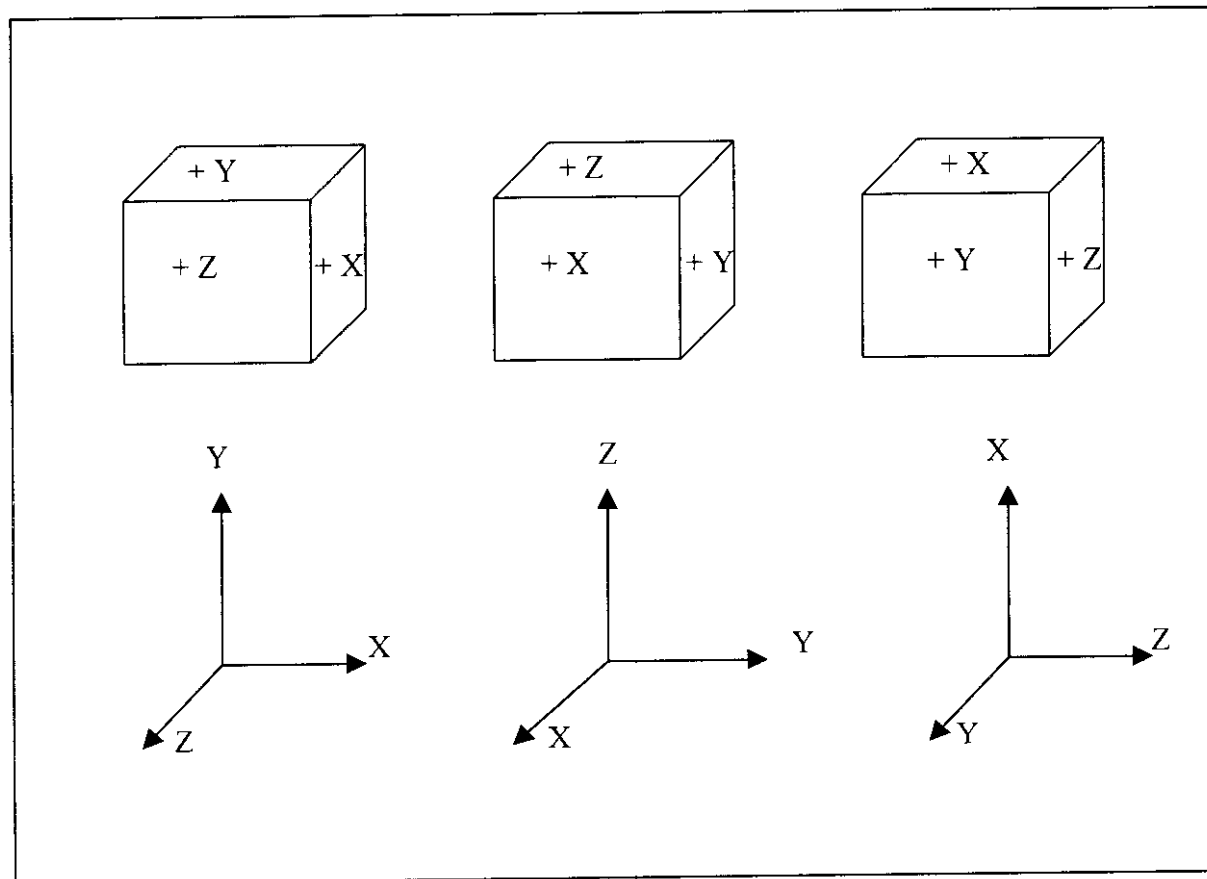
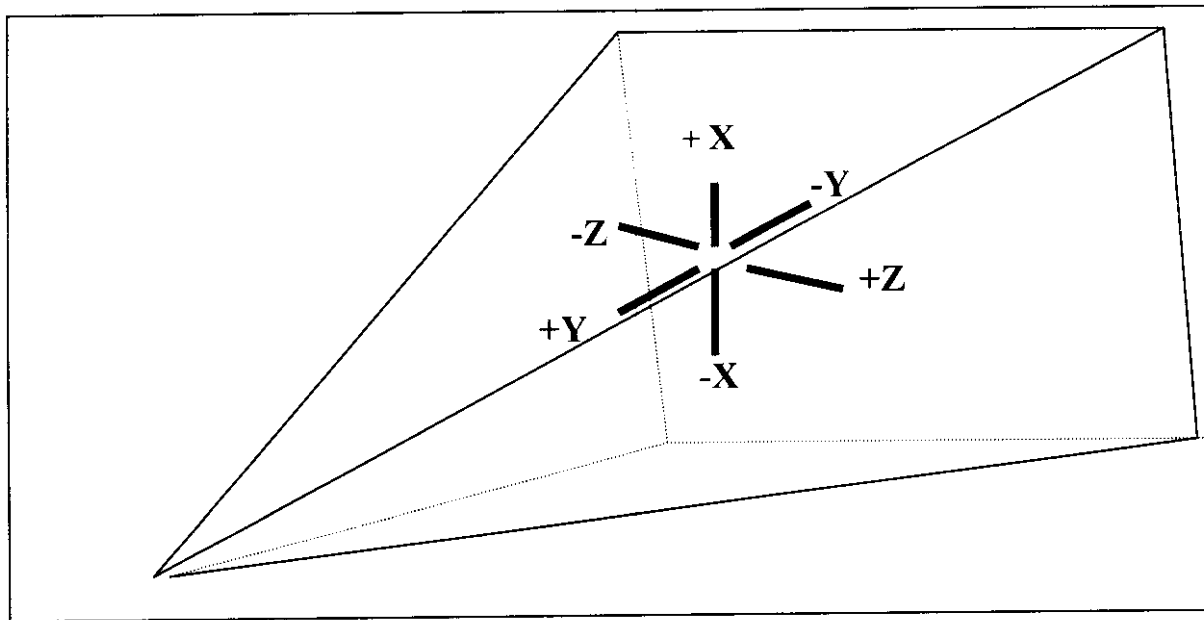


Figure. 4 The Way to Turn the Box

List of test Instrument :

<u>Instrument Name</u>	<u>Model No.</u>	<u>Brand</u>	<u>Serial No.</u>	<u>Calibration Date</u>	
				<u>Last</u>	<u>Next</u>
Spectrum analyzer	8568B	H P	3004A18617	05/15/97	05/15/98
Quasi-peak Adapter	85650A	H P	2521A00984	05/15/97	05/15/98
RF Pre-selector	85685A	H P	2947A01011	05/15/97	05/15/98
GTEM	5317	EMCO	94111123		

Test result : Pass (Appendix B)

Chapter 4 Verify Frequencies and Channels

Verify the Frequency Pairs

Channel	Base (MHz)	Handset (MHz)	Channel	Base (MHz)	Handset (MHz)
1	43.72013	48.76025	14	44.46013	49.46025
2	43.74025	48.84032	15	44.48024	49.50045
3	43.82015	48.86064	16	46.61046	49.67027
4	43.84013	48.92047	17	46.63068	49.84534
5	43.92024	49.02038	18	46.67035	49.86072
6	43.96031	49.08074	19	46.71024	49.77052
7	44.11994	49.10045	20	46.73043	49.87545
8	44.16036	49.16014	21	46.77064	49.83050
9	44.18037	49.20037	22	46.83072	49.89027
10	44.20025	49.24026	23	46.87005	49.92964
11	44.32045	49.28081	24	46.93036	49.99050
12	44.36051	49.36040	25	46.97025	49.97000
13	44.40023	49.40035			

Verify the “ Automatic Channel Selection Mechanism ”

1. Using another cordless phone (EUT 1) which was set at channel one (43.72), then using 2.5 KHz modulation signal to the handset's microphone.
2. Turn on the handset of EUT 2, recorded the frequency of base .
3. Then push the “ Channel ” button which is set for channel-scanning and listened to the handset if the 2.5 KHz can heard on the handset of EUT 2.
4. Repeated step 3 more than 30 times , then checked if channel one ge recorded .
5. Adjusted the channel to 15, repeated all step again.

Result : EUT 2 was unable to occupy the channel being used .

Chapter 5 Occupied bandwidth test

Test condition and setup :

Handset :

- (1) Setup as the configuration (4 -1) next page .
- (2) **Press “Talk “ button to link and select Channel 1(or 2,3,4,5).**
- (3) Centered the selected frequency and Setup the spectrum Span=40KHz or 50KHz ,RB=300Hz; Setup the frequency of modulation meter.
- (4) Setup the SG=2.5KHz and take the handset as close as to the output speaker.
- (5) Plot the carrier without modulation .
- (6) Turn on the Amplify and adjust the output level until getting the max. deviation (D) read from modulation meter .(Be sure the $D < 100$ Hz when SG no output)
- (7) Adjust the SG level until getting 85% max. deviation (i.e. $0.85 \times D$ KHz).
- (8) Plot the modulation bandwidth, 26 dB down from the unmodulation carrier.
- (9) Turn the output level to zero and off the amplify.
- (10) **Select Handset to Channel 25 (or 24,23,22,21).**
- (11) Repeat the procedure (3) to (9).

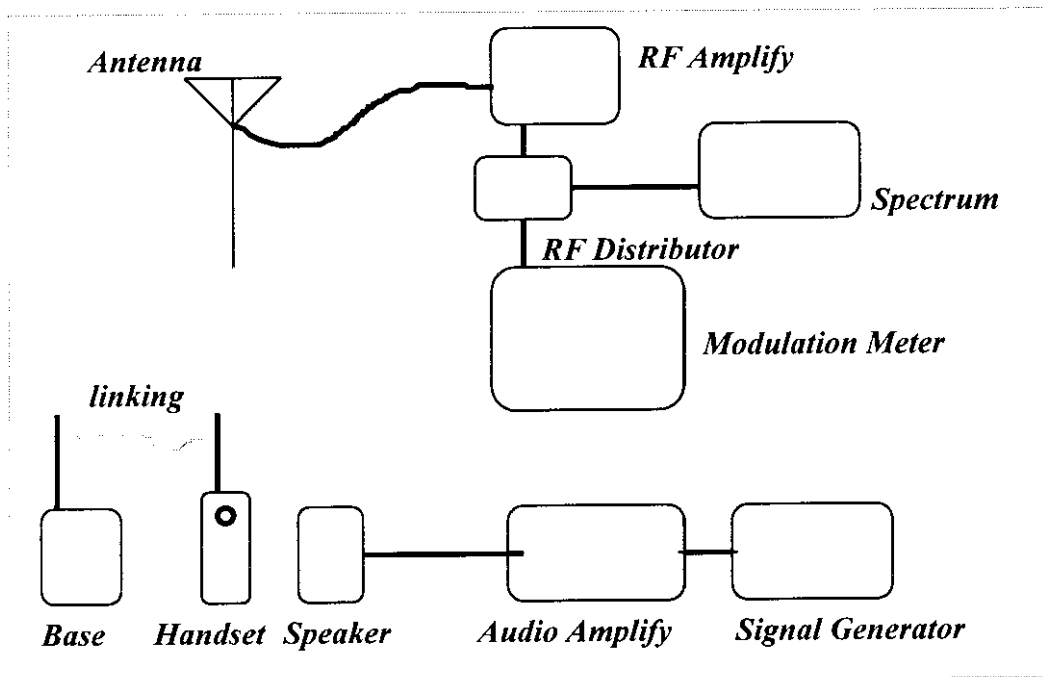
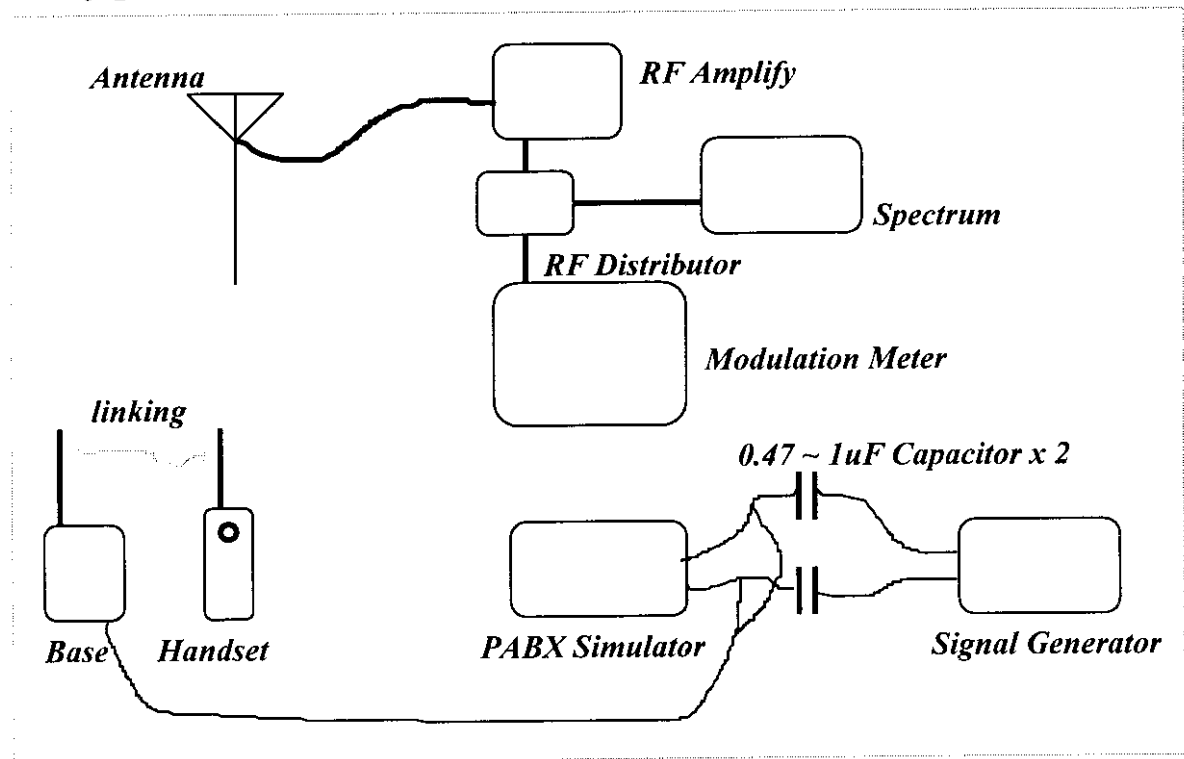
Base :

- (1) Setup as the configuration (4-2) next page and dial “1” to mute the dial tone .
- (2) **Press “Talk “ button to link and select Channel 1 (or 2,3,4,5)**
- (3) Centered frequency at selected channel and Repeat the step (5)-(9) of handset .
- (4) **Select Handset to Channel 25(or 24,23,21)**
- (5) Centered frequency at selected channel and Repeat the step (5)-(9) of handset.

List of test Instrument :

<u>Instrument name</u>	<u>Model No.</u>	<u>Brand</u>	<u>Remark</u>
Spectrum Analyzer	8591A	H P	1.8GHz
Signal Generator	8116A	HP	50MHz
RF Amplify	TIA-1000-1R8	Mini-Circuits	35dB
Modulation Meter	AMM2000	Farnell	
Antenna(30M Hz -300 Hz)	3110	EMCO	300MHz
Audio Amplify	A-305	Pioneer	

Test result : Pass (Appendix C)

Configuration of occupied BW test for handset : (4-1)**Configuration of occupied BW test for Base : (4-2)**

Chapter 6 Frequency Stability Measurement

Test condition and setup :

Item 1 : Temperature variation

- (1) Setup as the configuration (5-1) next page.
- (2) Put the handset and base into the chamber.
- (3) Set handset and base to channel 1, and verify the frequency on spectrum.
- (4) Setup Spectrum, set counter on, Decrease the Span until the reading is correct.
- (5) Turn on the chamber and set the temperature to -20°C .
- (6) Keeping the setting temperature 10 min. and record the frequency by counter on.
- (7) Set the temperature to 25°C and repeat Step (6).
- (8) Set the temperature to 50°C and repeat Step (6), then turn off the chamber.
- (9) Set handset and base to channel 25, and verify the frequency on spectrum.
- (10) Repeat Step (5) to (9). (Temperature can be set up from 50°C to -20°C)

Item 2 : Power Voltage variation

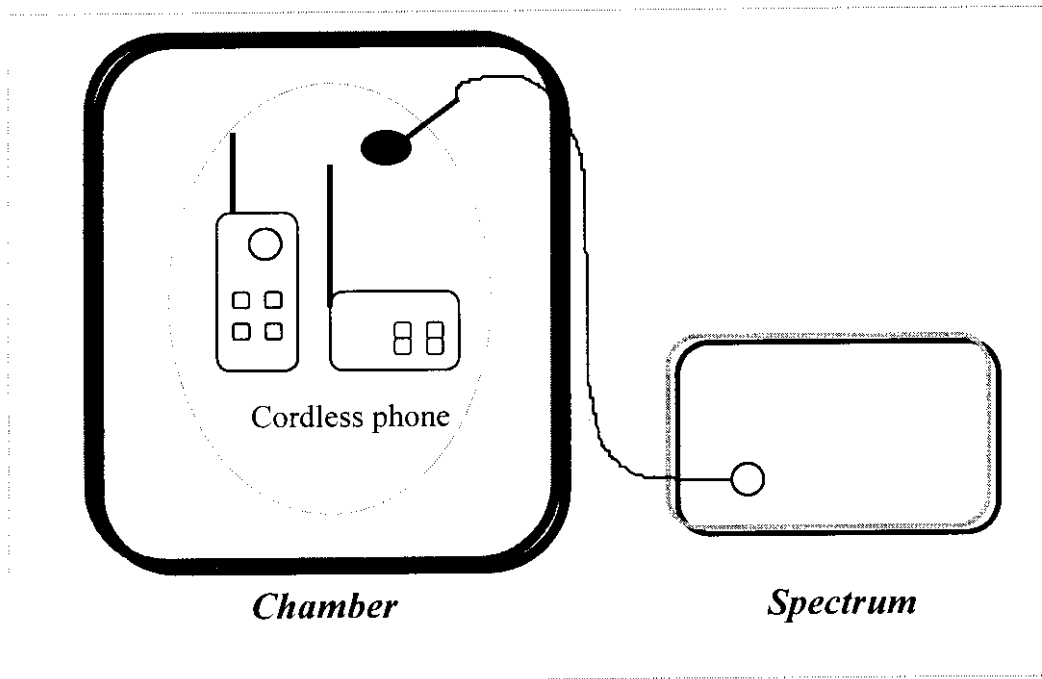
- (1) Setup as the configuration (5-2) next page.
- (2) Do the step (3), (4) of Item 1 test.
- (3) Base: Adjust the auto-transformer to 102, 120, 138 VAC and record the frequency separately.
- (4) Adjust the auto-transformer to Endpoint voltage and record the voltage.
- (5) Handset: Adjust the power supply to 3.06, 3.6, 4.14 VDC and record the frequency separately.
- (6) Adjust the power supply to Endpoint voltage and record the voltage.
- (7) Set handset and base to channel 25, and verify the frequency on spectrum.
- (8) Repeat Step (3) to (6).

List of test Instrument :

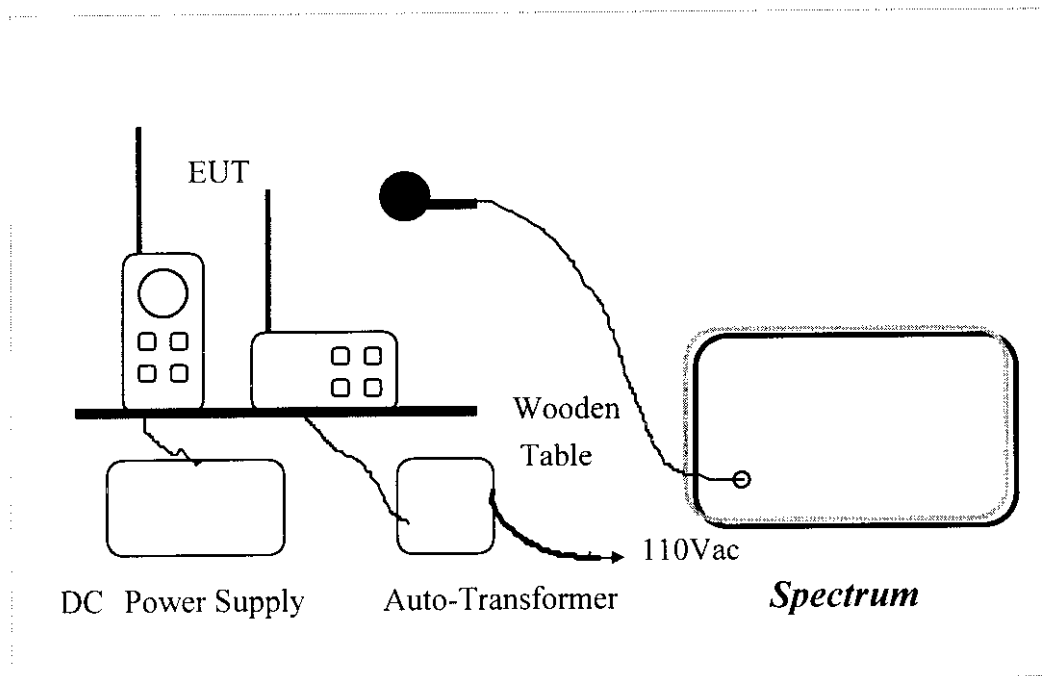
Instrument name	Model No.	Brand	Remark
Spectrum Analyzer	8591A	H P	1.8GHz
Temperature Chamber	THS-MV2	King Son	
Near field Probe	7405-901	EMCO	
Power Supply			
Auto Transformer	Powerstat	Supprior Elec. Co.	

Test result : Pass (Appendix D)

Configuration of Temperature variation test : (5-1)



Configuration of Voltage variation test : (5-2)



Appendix A

Conducted Emission Test Result :

Testing room : Temperature : 26° C Humidity : 50 %

Line 1

<i>Frequency (MHz)</i>	<i>Amplitude (dBuV)</i>	<i>Limit (dBuV)</i>	<i>Margin (dB)</i>
0.450	21.42	48	-26.58
10.275	20.94	48	-27.06
10.866	16.87	48	-31.13
17.811	21.64	48	-26.36
19.140	17.48	48	-30.52
20.101	18.04	48	-29.96
21.578	17.08	48	-30.92
22.539	18.56	48	-29.44
24.090	24.18	48	-23.82
25.198	26.85	48.00	-21.15

Line 2

<i>Frequency (MHz)</i>	<i>Amplitude (dBuV)</i>	<i>Limit (dBuV)</i>	<i>Margin (dB)</i>
0.450	23.37	48	-24.63
3.479	14.98	48	-33.02
10.201	19.49	48	-28.51
17.884	20.33	48	-27.67
21.504	17.59	48	-30.41
23.351	19.54	48	-28.46
24.090	21.97	48	-26.03
25.198	18.63	48	-29.37

***CH1, CH25 conduction are all the same .**

Appendix B

Testing room : Temperature : 25 °C Humidity : 40 %

Testing site : Temperature : 26 °C Humidity : 50 %

Radiated Emission Test Result :(Handset CH 1)

FREQUENC	AMPLITUDE	LIMIT	MARGIN
(MHz)	(dBuV/m)	(dBuV/m)	(dB)

48.60	78.01	80	-1.99
97.80	31.60	43.50	-11.9
99.30	34.97	43.50	-8.53
146.10	28.92	43.50	-14.58
195.20	28.12	43.50	-15.38
330.60	32.74	46.00	-13.26
363.20	35.28	46.00	-10.72
462.30	36.30	46.00	-9.7

Note:

1. Margin = Amplitude - limit, *if margin is minus means under limit.*
2. All test emissions not listed here are under limit more than the listed emissions.
3. Because in the test, the RB=1MHz ,VB=1MHz , Span= 100MHz ,so the test frequencies have a little deviation compared to the real frequencies.

Radiated Emission Test Result :(Handset CH 25)

FREQUENC	AMPLITUDE	LIMIT	MARGIN
(MHz)	(dBuV/m)	(dBuV/m)	(dB)

49.80	77.23	80	-2.77
72.60	21.95	40.00	-18.05
326.70	33.42	46.00	-12.58
362.70	35.53	46.00	-10.47
435.20	40.11	46.00	-5.89
471.60	37.14	46.00	-8.86
834.30	41.18	46.00	-4.82
907.00	42.36	46.00	-3.64

Note :

- 1.Margin = Amplitude - limit, *if margin is minus means under limit.*
- 2.All test emissions not listed here are under limit more than the listed emissions.
- 3.Because in the test, the RB=1MHz ,VB=1MHz , Span= 100MHz ,so the test frequencies have a little deviation compared to the real frequencies.

Radiated Emission Test Result :(Base CH 1)

FREQUENC	AMPLITUDE	LIMIT	MARGIN
(MHz)	(dBuV/m)	(dBuV/m)	(dB)

43.60	77.92	80	-2.08
87.50	39.70	40.00	-0.3
114.50	24.69	43.50	-18.81
131.00	39.02	43.50	-4.48
131.40	38.44	43.50	-5.06
228.70	35.73	46.00	-10.27
266.40	29.18	46.00	-16.82
304.70	30.97	46	-15.03
342.50	36.91	46	-9.09

Note:

- 1.Margin = Amplitude - limit, *if margin is minus means under limit.*
- 2.All test emissions not listed here are under limit more than the listed emissions.
- 3.Because in the test, the RB=1MHz ,VB=1MHz , Span= 100MHz ,so the test frequencies have a little deviation compared to the real frequencies.

Radiated Emission Test Result :(Base CH 25)

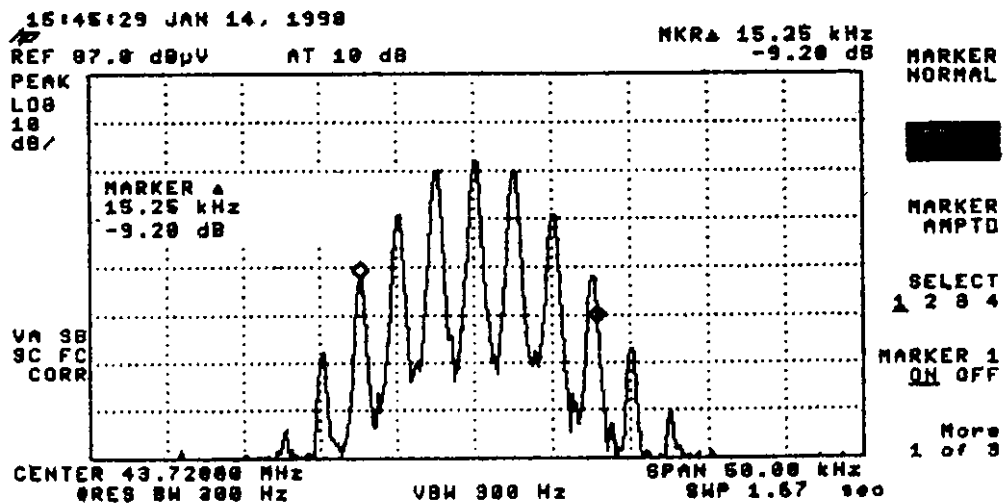
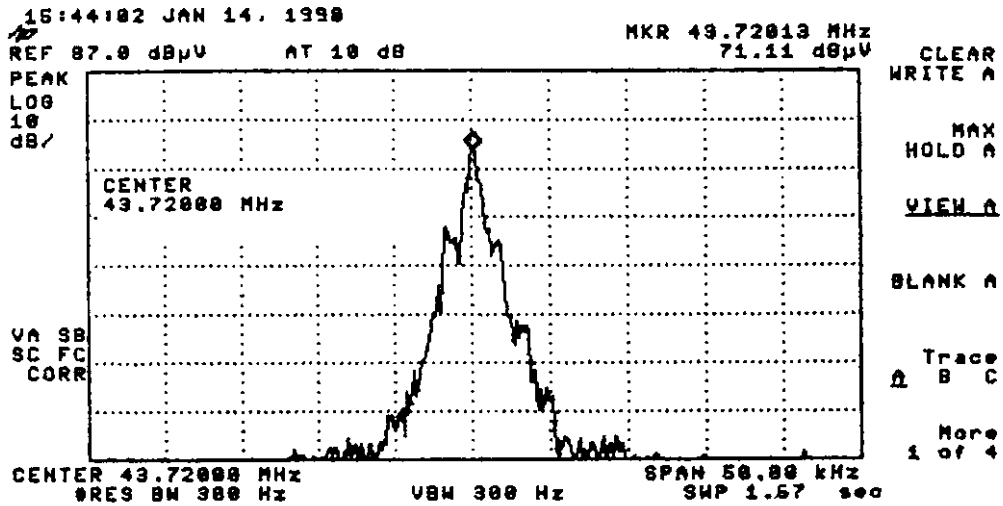
FREQUENC	AMPLITUDE	LIMIT	MARGIN
(MHz)	(dBuV/m)	(dBuV/m)	(dB)

46.80	78.42	80.00	-1.58
78.60	35.36	40.00	-4.64
94.00	42.00	43.50	-1.5
140.80	41.37	43.50	-2.13
196.50	29.36	43.50	-14.14
234.80	26.72	46.00	-19.28
235.50	38.63	46.00	-7.37
275.00	28.19	46.00	-17.81
314.40	33.31	46	-12.69
353.40	36.40	46	-9.6

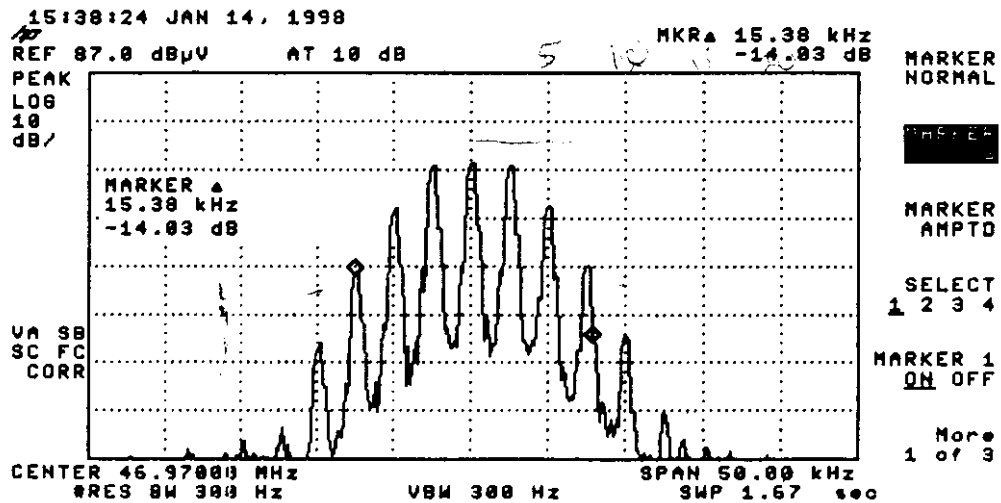
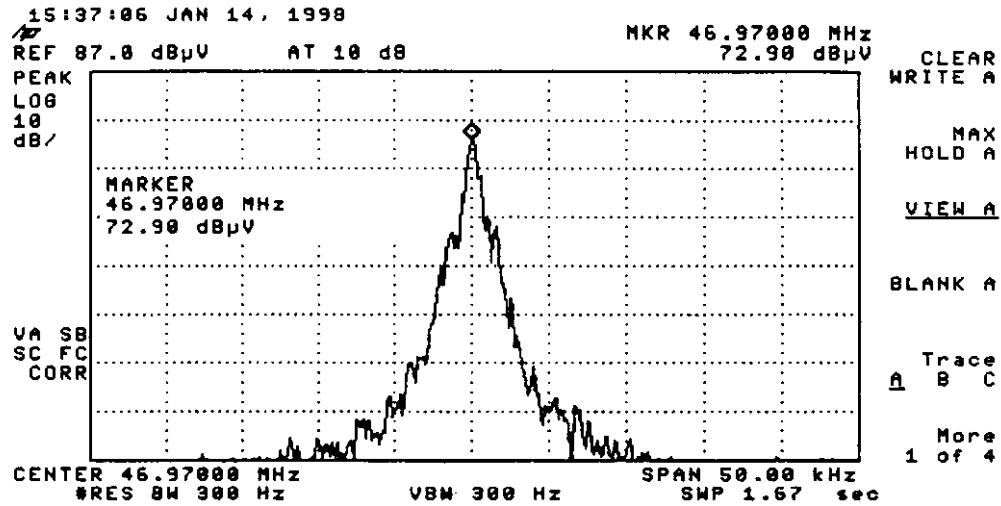
Note:

- 1.Margin = Amplitude - limit, *if margin is minus means under limit.*
- 2.All test emissions not listed here are under limit more than the listed emissions.
- 3.Because in the test, the RB=1MHz ,VB=1MHz , Span= 100MHz ,so the test frequencies have a little deviation compared to the real frequencies.

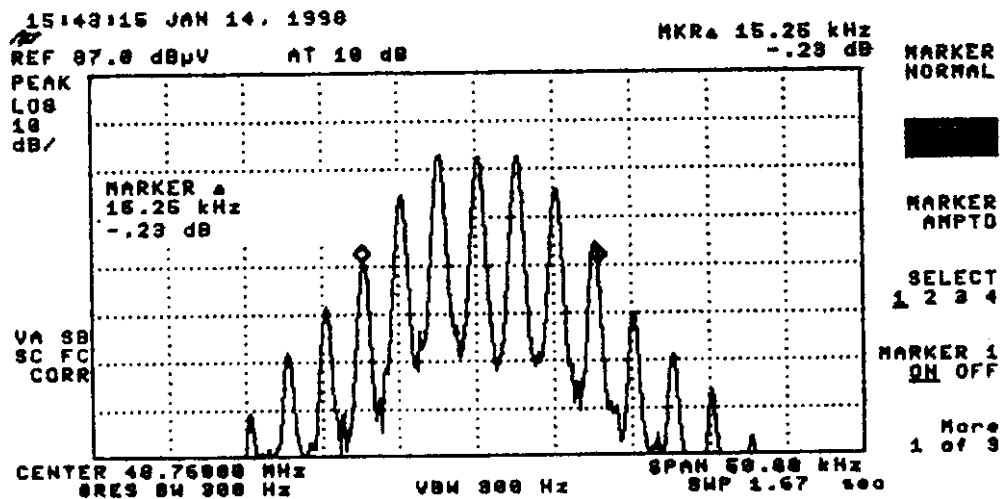
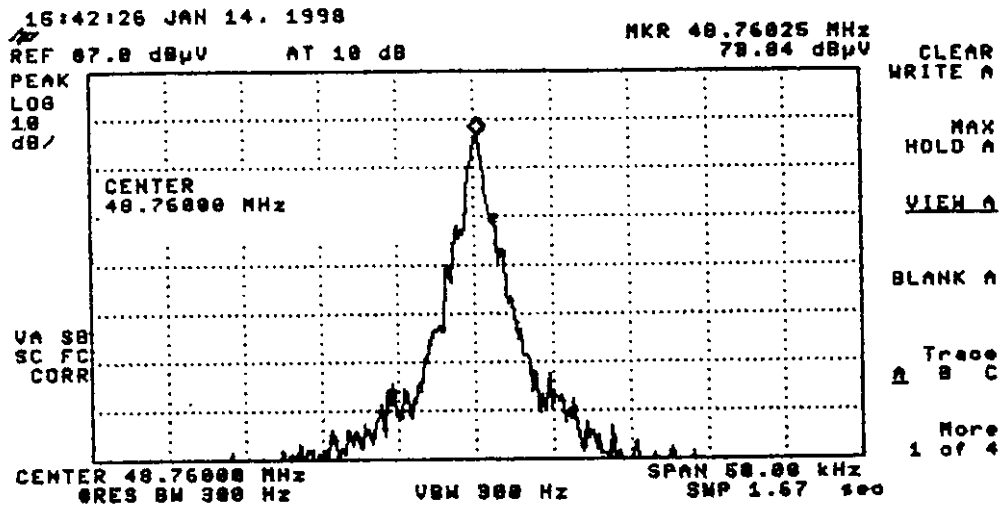
Appendix C Occupied BW plots BASE CH01



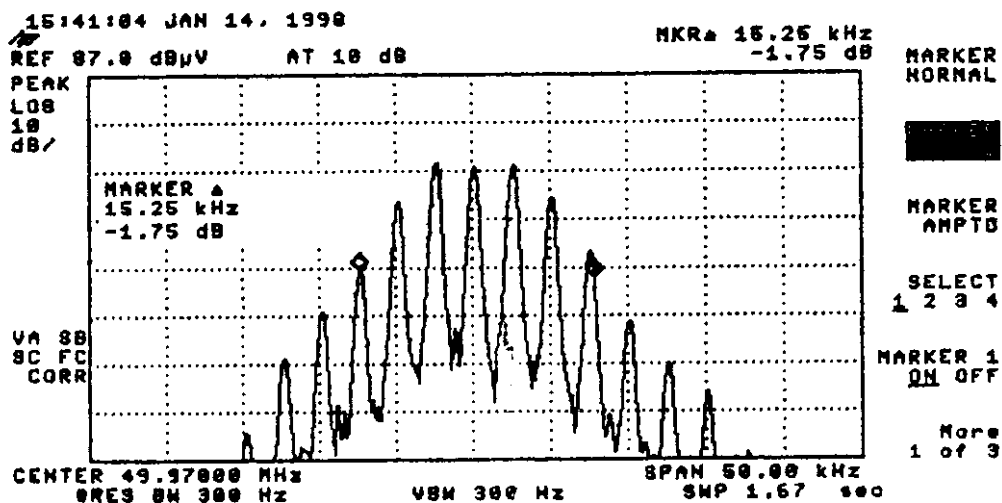
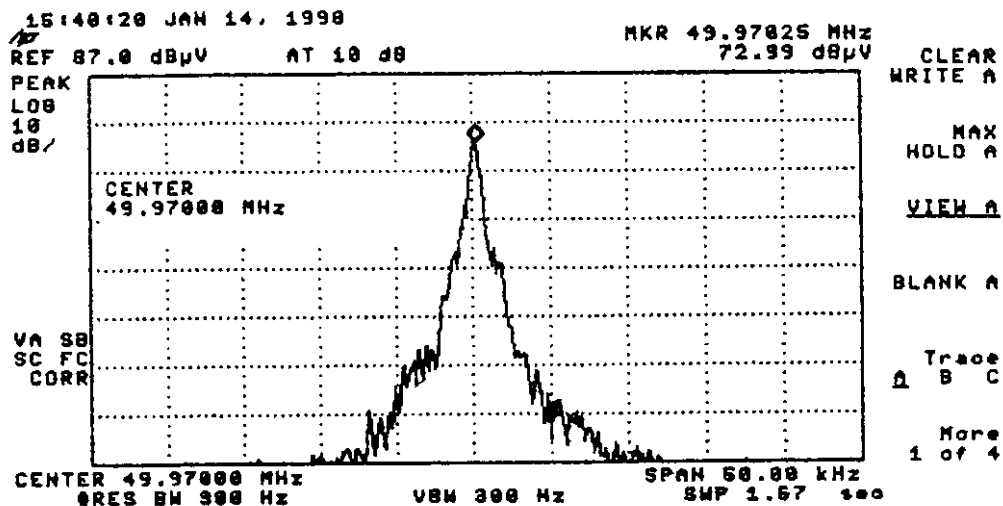
Occupied BW plots BASE CH25



Occupied BW plots HANDSET CH01



Occupied BW plots HANDSET CH25



Appendix D

Frequency Stability at Temperature variation (CH 1)

DEVICE TESTED	TEMP. (°C)	TIME (MIN.)	FREQUENCY (MHZ)	TOLERANCE (MHZ)
BASE	-20	2	43.72047	43.71563 ~ 43.72437 /
BASE	-20	5	43.72073	43.71563 ~ 43.72437
BASE	-20	10	43.72097	43.71563 ~ 43.72437
HS	-20	2	48.76006	48.75513 ~ 48.76487
HS	-20	5	48.76002	48.75513 ~ 48.76487
HS	-20	10	48.75995	48.75513 ~ 48.76487
BASE	25	2	43.71993	43.71563 ~ 43.72437
BASE	25	5	43.71995	43.71563 ~ 43.72437
BASE	25	10	43.71996	43.71563 ~ 43.72437
HS	25	2	48.76004	48.75513 ~ 48.76487
HS	25	5	48.76005	48.75513 ~ 48.76487
HS	25	10	48.76003	48.75513 ~ 48.76487
BASE	50	2	43.71937	43.71563 ~ 43.72437
BASE	50	5	43.71929	43.71563 ~ 43.72437
BASE	50	10	43.71920	43.71563 ~ 43.72437
HS	50	2	48.75999	48.75513 ~ 48.76487
HS	50	5	48.75996	48.75513 ~ 48.76487
HS	50	10	48.75992	48.75513 ~ 48.76487

43.721

Frequency Stability at Temperature variation (CH 25)

DEVICE TESTED	TEMP. (°C)	TIME (MIN.)	FREQUENCY (MHZ)	TOLERANCE (MHZ)
BASE	-20	2	46.97111	46.96530 ~ 46.97469
BASE	-20	5	46.97116	46.96530 ~ 46.97469
BASE	-20	10	46.97120	46.96530 ~ 46.97469
HS	-20	2	49.96992	49.96500 ~ 49.97499
HS	-20	5	49.96990	49.96500 ~ 49.97499
HS	-20	10	49.96986	49.96500 ~ 49.97499
BASE	25	2	46.96996	46.96530 ~ 46.97469
BASE	25	5	46.96996	46.96530 ~ 46.97469
BASE	25	10	46.96996	46.96530 ~ 46.97469
HS	25	2	49.97002	49.96500 ~ 49.97499
HS	25	5	49.97003	49.96500 ~ 49.97499
HS	25	10	49.97004	49.96500 ~ 49.97499
BASE	50	2	46.97037	46.96530 ~ 46.97469
BASE	50	5	46.96994	46.96530 ~ 46.97469
BASE	50	10	46.96943	46.96530 ~ 46.97469
HS	50	2	49.97023	49.96500 ~ 49.97499
HS	50	5	49.97008	49.96500 ~ 49.97499
HS	50	10	49.97006	49.96500 ~ 49.97499

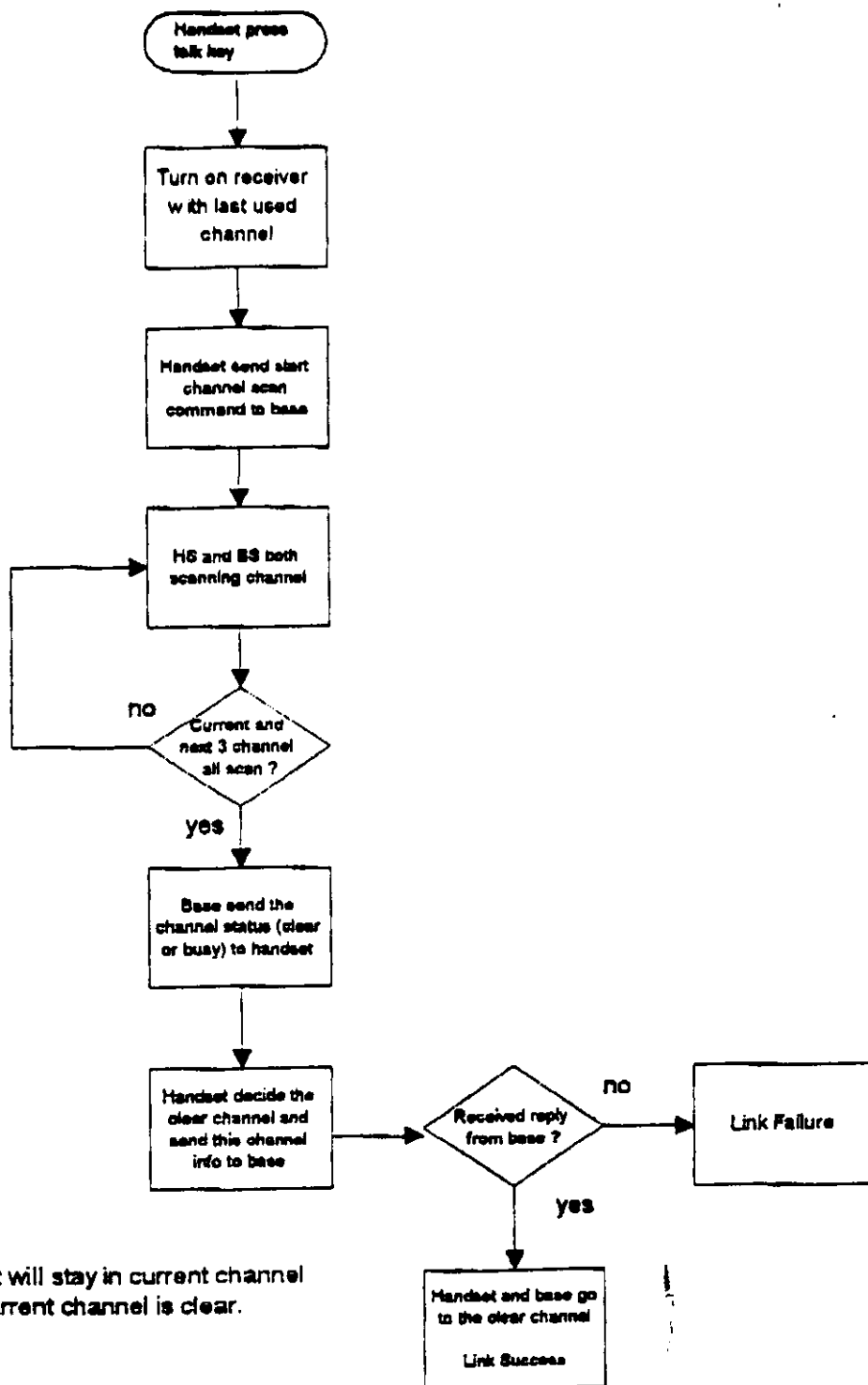
Frequency Stability at Voltage variation (CH 1)

Power Supply	Frequency(MHz)	Tolerance(MHz)
<i>Base 102 AC (85%)</i>	<i>43.72013</i>	<i>43.71462 ~ 43.72437</i>
<i>Base 120 AC (100%)</i>	<i>43.72050</i>	<i>43.71462 ~ 43.72437</i>
<i>Base 138 AC (120%)</i>	<i>43.72000</i>	<i>43.71462 ~ 43.72437</i>
<i>Base END-POINT</i>	<i>84.7V</i>	
<i>Handset 3.06 DC (85%)</i>	<i>48.76000</i>	<i>48.75512 ~ 48.76487</i>
<i>Handset 3.60 DC (100%)</i>	<i>48.76013</i>	<i>48.75512 ~ 48.76487</i>
<i>Handset 4.14 DC (120%)</i>	<i>48.76000</i>	<i>48.75512 ~ 48.76487</i>
<i>Handset END-POINT</i>	<i>2.58V</i>	

Frequency Stability at Voltage variation (CH 25)

Power Supply	Frequency(MHz)	Tolerance(MHz)
<i>Base 102 AC (85%)</i>	<i>46.97063</i>	<i>46.96530~46.97469</i>
<i>Base 120 AC (100%)</i>	<i>46.97000</i>	<i>46.96530~46.97469</i>
<i>Base 138 AC (120%)</i>	<i>46.97050</i>	<i>46.96530~46.97469</i>
<i>End-point Voltage</i>	<i>81.2V</i>	
<i>Handset 3.06 DC (85%)</i>	<i>49.97013</i>	<i>49.96530~49.97469</i>
<i>Handset 3.60 DC (100%)</i>	<i>49.97025</i>	<i>49.96530~49.97469</i>
<i>Handset 4.14 DC (120%)</i>	<i>49.97000</i>	<i>49.96530~49.97469</i>
<i>End-point Voltage</i>	<i>2.63V</i>	

Follow chart of channel selection



Note : The unit will stay in current channel if the current channel is clear.

Automatic Channel Selection Flowchart

List of Modification :

1. Power Jack :
 - * Insert a capacitor $L=10\ \mu\text{H}$ between Pin1 of power jack an D8.
 - * Connect a bypass capacitor (1000p.2KV) at pin 1 of power jack.
 - * $L5=10\ \mu\text{H}$.
2. Phone Jack :
 - * $L1$ and $L2 = 10\ \mu\text{H}$.
 - * Remove C30 .
 - * Insert $R=3.3\ \Omega$ at pin1 of VL2.
3. TX :
 - * $C118 = 100\text{ p}$.
 - * Insert $R = 20\Omega$ at between C118 and C116 (on the trace)
4. Others :
 - Remove the line that connect at between pin7 of V7 and the cap of VL2.