

EMI TESTING REPORT

EUT : 900MHz Analog Cordless phone with CIDCW

MODEL : 43-1110

FCC ID : AAO4301110

PREPARED FOR :

RADIOSHACK, A DIVISION OF TANDY CORP.

100 THROCKMORTON STREET, SUITE 1300,

FORT WORTH, TEXAS, 76102-2802,

U.S.A.

PREPARED BY :

SPECTRUM RESEARCH & TESTING LABORATORY INC.
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July 2, 1999

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

SUBJECT: Limited Agency Agreement

RE: AAO4301110

We, RadioShack, A Division of Tandy Corporation, hereby authorize Spectrum Research & Testing Laboratory, Inc. to act as our agent for the purpose of preparing application for FCC ID# AAO4301110 under all applicable parts of the FCC rules and regulations.

The effective date of this limited agency agreement is July 2, 1999. The limited agency agreement expires January 2, 2000, unless sooner terminated or extended by written notice to the Spectrum Research & Testing Laboratory 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
Manager, Engineering and Regulatory Affairs

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1. TEST REPORT CERTIFICATION**APPLICANT** : RADIOSHACK, A DIVISION OF TANDY CORP.**ADDRESS** : 100 THROCKMORTON STREET, SUITE 1300,
FORT WORTH, TEXAS, 76102-2802,
U.S.A.**EUT DESCRIPTION** : 900MHz Analog Cordless phone with CIDCW**(A) POWER SUPPLY** : BASE BY ADAPTOR (120VAC / 60Hz)
HANDSET BY BATTERY (3.6V / 610mAh)**(B) MODEL** : 43-1110**(C) FCC ID** : AAO4301110**FINAL TEST DATE** : 07/08/1999**MEASUREMENT PROCEDURE USED :**

* PART 15 SUBPART B & C OF FCC RULES AND REGULATIONS (47 CFR PART 15)

* ANSI C63.4 - 1992

* TEST PROCEDURE AND DATA ARE TRACEABLE TO NIST / USA.

We hereby certify that :

The measurements contained in this report were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable.

TESTING ENGINEER : Addison Liu **DATE** 7/8/99
Addison Liu**SUPERVISOR** : Jesse Ho **DATE** 7/8/99
Jesse Ho**APPROVED BY** : Johnson Ho **DATE** 7/8/99
Johnson Ho

2. TEST STATEMENT

2.1 TEST STATEMENT

1. This letter is to explain the EUT will be class II change.
2. The original FCC ID: AAO4301110 was approved by FCC.
The different between new one and old one is changed RF module.
3. EUT conditions:

 Frequency Range : Base → 902.30 ~ 906.10 MHz
 Handset → 923.90 ~ 927.70 MHz
 Support Channel : 20 channel
4. NVLAP logo is to be approved by management (it is according to NVLAP requirement if it need) before use.

3. DEPARTURE FROM DOCUMENT POLICIES, PROCEDURE OR SPECIFICATIONS, THE STATEMENT

A. Did have

Any departure from document policies & procedures or from specifications.

Yes _____, No ✓ _____.

If yes, the description as below.

B. The certificate and report shall not be reproduced except in full, without the written approval of SRT laboratory.

C. The report must not be used by the client to claim product endorsement by NVLAP or any agency the government.

D. This product is a prototype product.

E. The effect that the results relate only to the items tested.

4. EUT MODIFICATIONS

The following accessories were added to the EUT during testing :

No modifications by SRT lab.

5. CONDUCTED POWER LINE TEST

5.1 TEST EQUIPMENT

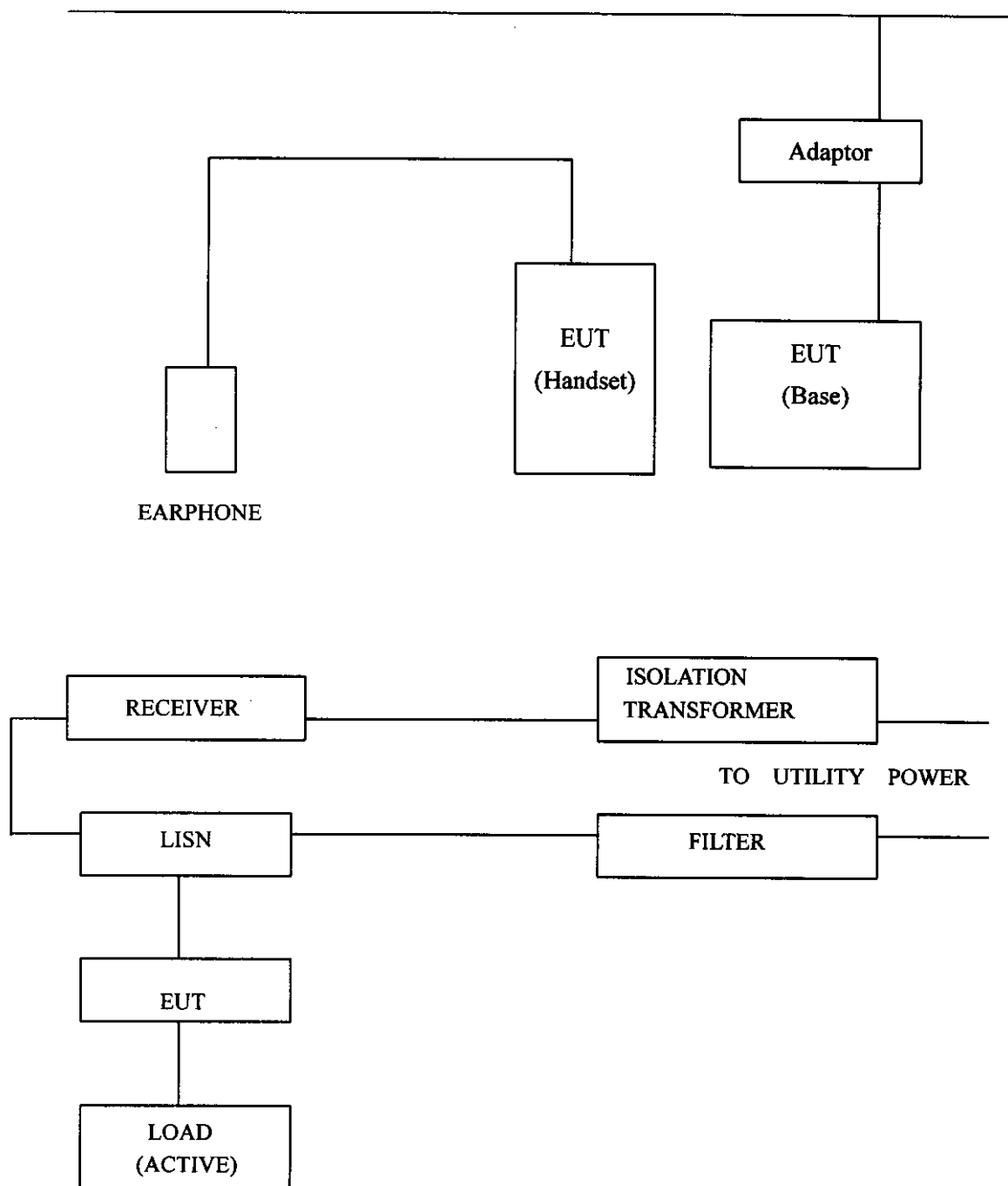
The following test equipment were used during the conducted power line test :

EQUIPMENT/FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL	DATE OF CALIBRATION	VALIDITY	STATUS
SPECTRUM ANALYZER	9 KHz TO 1 GHz	HP	8590L/ 3624A01317	AUGUST 1998 ETC	1Y	
EMI TEST RECEIVER	9 KHz TO 30 MHz	ROHDE & SCHWARZ	ESHS30/ 826003/008	AUGUST 1998 ETC	1Y	√
LISN	50 uH, 50 ohm	SOLAR ELECTRONICS	9252-50- R24-BNC/ 951315	AUGUST 1998 ETC	1Y	√
LISN	50uH, 50 ohm	SOLAR ELECTRONICS	9252-50- R24-BNC/ 951318	AUGUST 1998 ETC	1Y	√
SIGNAL GENERATOR	9 KHz TO 1080 MHz	ROHDE & SCHWARZ	SMY01/ 841104/019	APRIL 1999 ETC	1Y	√
POWER CONVERTER	0 TO 300 VAC VAC 47-500 Hz	AFC	AFC-1KW/ 850510	MARCH 1999 SRT	1Y	√

5.2 TEST PROCEDURE

The EUT was tested according to ANSI C63.4 - 1992. The frequency spectrum from 0.45 MHz to 30 MHz was investigated. The LISN used was 50 ohm / 50 uHenry as specified by section 5.1 of ANSI C63.4 - 1992. Cables and peripherals were moved to find the maximum emission levels for each frequency.

5.3 TEST SETUP



5.4 CONFIGURATION OF THE EUT

The EUT was configured according to ANSI C63.4 - 1992. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

DEVICE	MANUFACTURER	MODEL	FCC ID
900MHz Analog Cordless phone with CIDCW	RADIOSHACK, A DIVISION OF TANDY CORP.	43-1110	AAO4301110

B. INTERNAL DEVICES

DEVICE	MANUFACTURER	MODEL	FCC ID
N/A			

C. PERIPHERALS

DEVICE	MANUFACTURER	MODEL / SERIAL	FCC ID / PSE	LENGTH
EARPHONE	NATIONAL	12D-9267	N/A	1.2m unshielded data cable
ADAPTOR	RADIO SHACK	43-1110	N/A	1.8m unshielded power cord

- REMARK :

- (1). Cable - S1 : Single point shielding
S2 : 360° shielding
S3 : Double shielding
- (2). Cables - All 1m or greater in length – bundled according to ANSI C63.4 – 1992.

5.5 EUT OPERATING CONDITION

Operating condition is according to ANSI C63.4 - 1992.

1. EUT power on.
2. Frequency Range : Base → 902.300 ~ 906.100 MHz
Handset → 923.900 ~ 927.700 MHz

5.6 CONDUCTED POWER LINE EMISSION LIMITS

FREQUENCY RANGE (MHz)	Limit (dBuV)
0.45 - 1.705	48.0 dBuV
1.705 - 30	48.0 dBuV

NOTE : In the above table, the tighter limit applies at the band edges.

5.7 CONDUCTED POWER LINE TEST RESULTS

The frequency spectrum from 0.45 MHz to 30 MHz was investigated.
All readings are quasi-peak values with a resolution bandwidth
of 9 KHz.

Temperature : 24 °CHumidity : 45 %RH

FREQUENCY (MHz)	LINE1 (dBuV)	LINE2 (dBuV)	LINE3 (dBuV)
0.45	*	19.5	48.0
0.66	26.9	*	48.0
0.78	21.0	*	48.0
0.98	*	12.0	48.0
1.05	20.0	*	48.0
1.50	*	19.9	48.0
8.00	21.0	22.2	48.0

REMARKS : (1). * = measurement does not apply for this frequency
(2). uncertainty in conducted emission measured is <+/-2dB
(3). any departure from specification : N/A
(4). Charge mode

SIGNED BY TESTING ENGINEER : Adilson

5.7 CONDUCTED POWER LINE TEST RESULTS

The frequency spectrum from 0.45 MHz to 30 MHz was investigated. All readings are quasi-peak values with a resolution bandwidth of 9 KHz.

Temperature : 24 °CHumidity : 45 %RH

FREQUENCY (MHz)	LINE1 (dBµV)	LINE2 (dBµV)	LINE3 (dBµV)
0.45	31.7	30.6	48.0
0.78	*	20.8	48.0
0.94	23.6	*	48.0
1.00	21.0	*	48.0
1.08	*	18.9	48.0
2.22	13.5	*	48.0
8.00	21.2	22.2	48.0

REMARKS : (1). * = measurement does not apply for this frequency
(2). uncertainty in conducted emission measured is <+/-2dB
(3). any departure from specification : N/A
(4). Base channel 01

SIGNED BY TESTING ENGINEER : Adison

5.7 CONDUCTED POWER LINE TEST RESULTS

The frequency spectrum from 0.45 MHz to 30 MHz was investigated.
All readings are quasi-peak values with a resolution bandwidth
of 9 KHz.

Temperature : 24 °CHumidity : 45 %RH

FREQUENCY (MHz)	LINEL (dBmV)	LINEL2 (dBmV)	LINEL3 (dBmV)
0.45	31.2	27.8	48.0
0.76	*	20.4	48.0
0.94	23.7	*	48.0
1.00	20.9	*	48.0
1.49	*	20.2	48.0
2.22	13.7	*	48.0
4.00	10.3	10.2	48.0
8.00	21.2	21.7	48.0

REMARKS : (1). * = measurement does not apply for this frequency
(2). uncertainty in conducted emission measured is <+/-2dB
(3). any departure from specification : N/A
(4). Base channel 10

SIGNED BY TESTING ENGINEER : _____

Addison

5.7 CONDUCTED POWER LINE TEST RESULTS

The frequency spectrum from 0.45 MHz to 30 MHz was investigated. All readings are quasi-peak values with a resolution bandwidth of 9 KHz.

Temperature : 24 °CHumidity : 45 %RH

FREQUENCY (MHz)	LINE1 (dBm)	LINE2 (dBm)	LIM1 (dBm)
0.45	31.1	30.4	48.0
0.77	*	20.5	48.0
0.93	23.9	*	48.0
1.06	20.8	*	48.0
2.21	13.8	*	48.0
4.10	*	3.3	48.0
8.00	21.3	22.2	48.0

REMARKS : (1). * = measurement does not apply for this frequency
(2). uncertainty in conducted emission measured is <+/-2dB
(3). any departure from specification : N/A
(4). Base channel 20

SIGNED BY TESTING ENGINEER : _____

Addison

6. RADIATED EMISSION TEST**6.1 TEST EQUIPMENT**

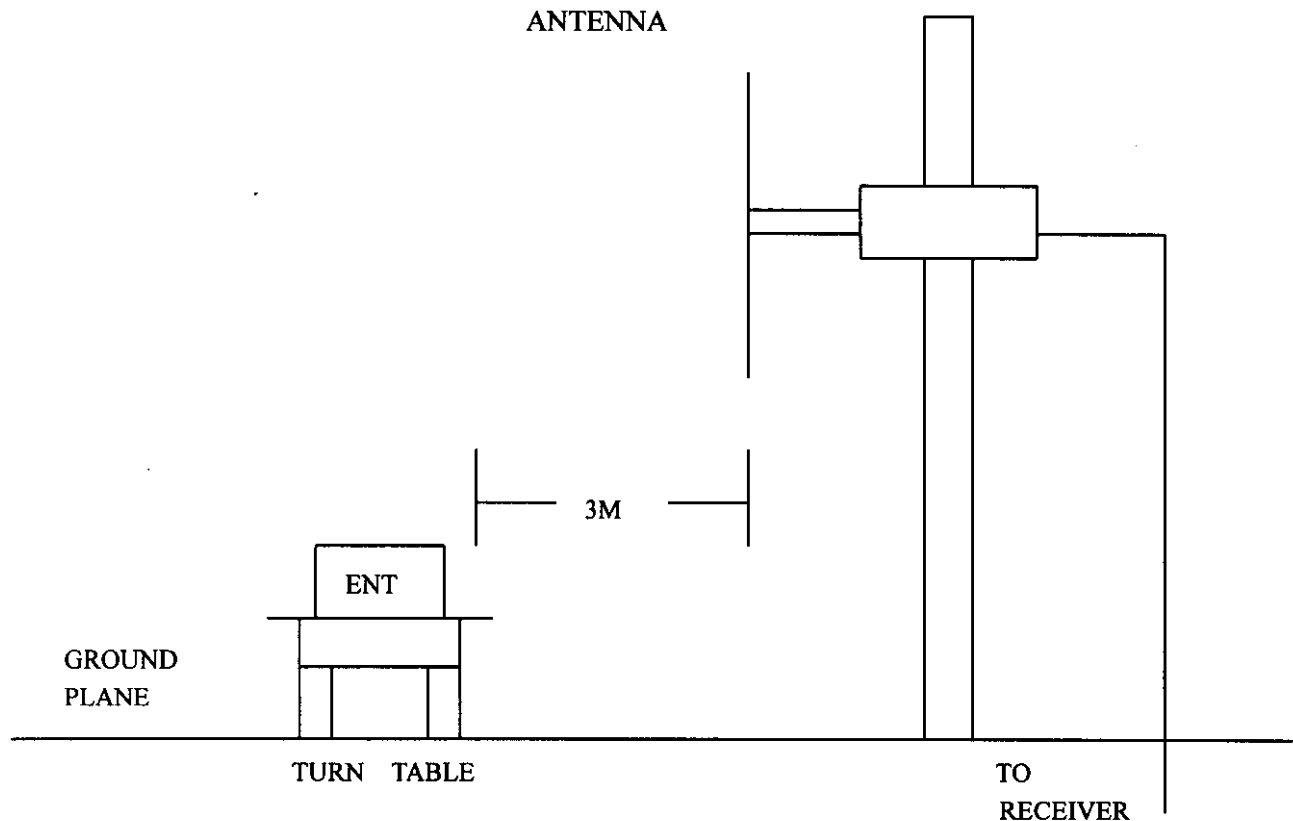
The following test equipment were used during the radiated emission test :

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL NUMBER	DATE OF PURCHASE	WARRANTY PERIOD	STATUS
RECEIVER	20 MHz TO 1000 MHz	R & S	ESVS30/ 841977/003	APRIL 1999 ETC	1Y	√
SPECTRUM ANALYZER	100 Hz TO 1500 MHz	HP	8568B/ 3019A05294	OCT. 1998 ETC	1Y	
SPECTRUM ANALYZER	9 KHz TO 22 GHz	HP	8593E/ 3322A00670	MAY 1999 ETC	1Y	√
SPECTRUM ANALYZER	100 Hz TO 1000 MHz	IFR	A-7550/ 2684/1248	JULY 1998 ETC	1Y	
SIGNAL GENERATOR	9 KHz TO 1080 MHz	ROHDE & SCHWARZ	SMY01/ 841104/019	APRIL 1999 ETC	1Y	√
DIPOLE ANTENNA	28 MHz TO 1000 MHz	EMCO	3121C/ 9003-534	MARCH 1999 SRT	1Y	
DIPOLE ANTENNA	28 MHz TO 1000 MHz	EMCO	3121C/ 9611-1239	SEP. 1998 SRT	1Y	
BI-LOG ANTENNA	26 MHz TO 2000 MHz	EMCO	3142/ 9608-1073	SEP. 1998 SRT	1Y	√
BI-LOG ANTENNA	26 MHz TO 1100 MHz	EMCO	3143/ 9509-1152	SEP. 1998 SRT	1Y	
PRE-AMPLIFIER	0.1 MHz TO 1300 MHz	HP	8447D/ 2944A08402	APRIL 1999 ETC	1Y	
PRE-AMPLIFIER	0.1 MHz TO 1300 MHz	HP	8447D/ 2944A06412	AUGUST 1998 ETC	1Y	
HORN ANTENNA	1 GHz TO 18 GHz	EMCO	3115/ 9012-3619	JAN. 1999 EMCO	1Y	√

6.2 TEST PROCEDURE

- (1).The EUT was tested according to ANSI C63.4 - 1992. The radiated test was performed at SRT lab's open site. this site is on file with the FCC laboratory division, reference 31040/SIT.
- (2).The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-1992.
- (3).The frequency spectrum from 30 MHz to 10 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz. Measurements were made at 3 meters.
- (4).The antenna high were varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5).The antenna polarization : Vertical polarization and horizontal polarization.

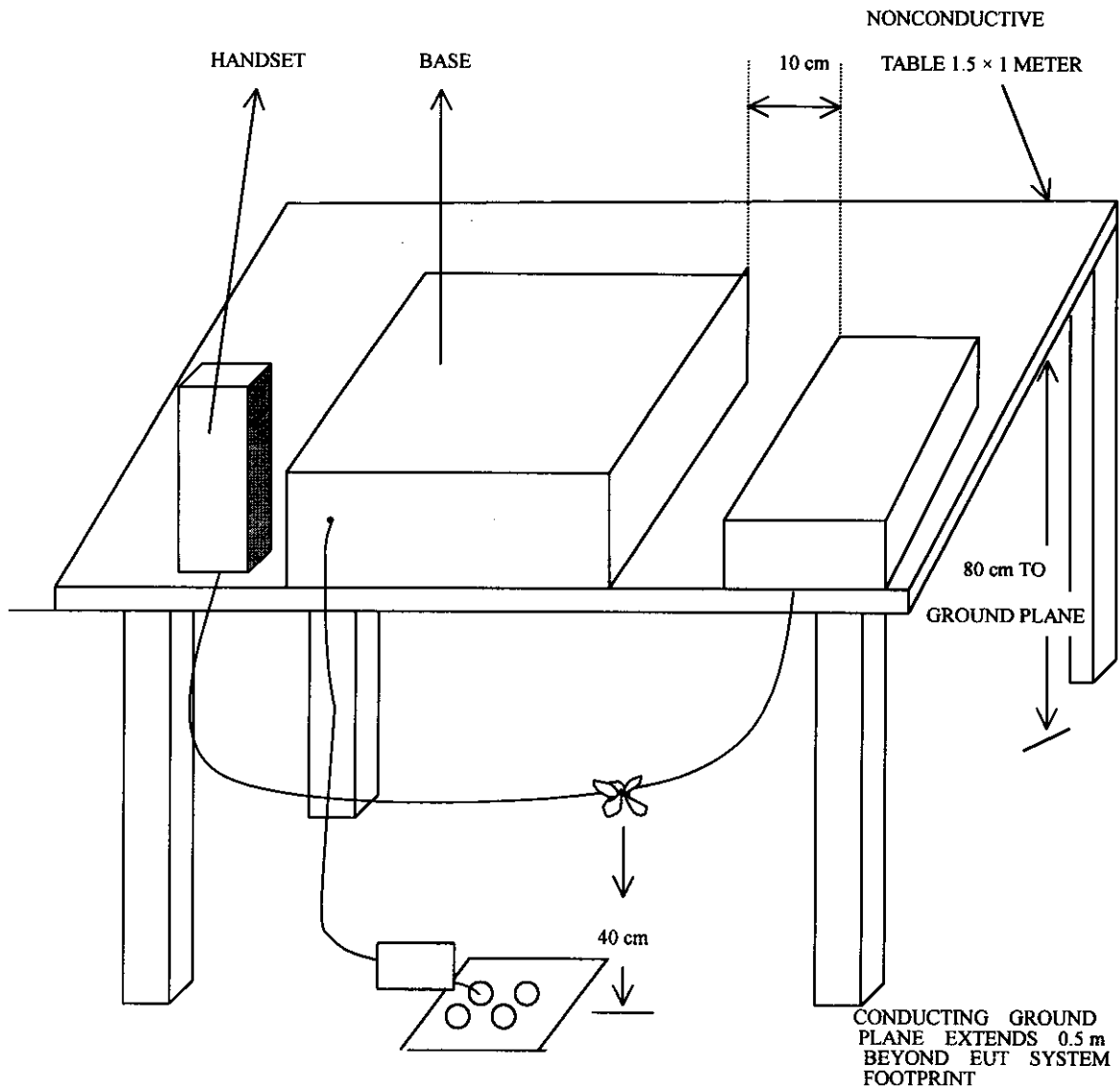
6.3 RADIATED TEST SET-UP



6.3 RADIATED TEST SET-UP

ANSI C63.4-1992

ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE RANGE IN THE RANGE OF 9 KHz TO 40 GHz



6.4 CONFIGURATION OF THE THE EUT

Same as section 5.4 of this report

6.5 EUT OPERATING CONDITION

Same as section 5.5 of this report.

6.6 RADIATED EMISSION LIMITS

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below :

CLASS B

FREQUENCY (MHz)	DISTANCE (m)	FIELD STRENGTH (dBµV/m)
30 - 88	3	40.0
88 - 216	3	43.5
216 - 960	3	46.0
ABOVE 960	3	54.0

FUNDAMENTAL AND HARMONICS

FUNDAMENTAL FREQUENCY	FIELD STRENGTH OF FUNDAMENTAL (dBµV/m @ 3m)	FIELD STRENGTH OF HARMONICS (dBµV/m @ 3m)
902MHz - 928MHz	50	500
2400MHz - 2483.5MHz	50	500
5725MHz - 5875MHz	50	500
24.0GHz - 24.25GHz	250	2500

- NOTE :** 1. In the emission tables above, the tighter limit applies at the band edges.
2. Distance refers to the distance between measuring instrument, antenna, and the closest point of any part of the device or system.

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature : 28 °CHumidity : 55 %RH

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	READING (dBuV)		EMISSION (dBuV/m)		LIMITS (dBuV/m)
			HORIZ	VERT	HORIZ	VERT	
41.99	0.5	11.9	*	14.6	*	27.0	40.0
51.94	0.5	10.1	*	11.2	*	21.8	40.0
152.42	1.1	9.4	14.1	13.9	24.6	24.4	43.5
232.14	1.3	13.7	15.4	*	30.4	*	46.0
461.24	1.7	17.5	*	13.9	*	33.1	46.0

REMARKS : (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is <+/-4dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation
 $20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} + \text{reading(dBuV)}$
 (6). Charge mode

SIGNED BY TESTING ENGINEER : Adison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature : 28 °CHumidity : 55 %RH

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	READING (dBuV)		EMISSION (dBuV/m)		LIMITS (dBuV/m)
			HORIZ	VERT	HORIZ	VERT	
44.00	0.4	11.4	14.7	16.6	26.5	28.4	40.0
51.96	0.5	10.1	*	15.1	*	25.7	40.0
135.21	1.0	11.2	14.2	13.8	26.4	26.0	43.5
232.14	1.3	13.7	15.9	*	30.9	*	46.0
241.82	1.3	14.2	15.4	*	30.9	*	46.0

- REMARKS :** (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is ± 4 dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation
 $20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} + \text{reading(dBuV)}$
 (6). Base channel 01

SIGNED BY TESTING ENGINEER :

Addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature : 28 °CHumidity : 55 %RH

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	READING (dBμV)		EMISSION (dBμV/m)		LIMIT (dBμV/m)
			HORIZ	VERT	HORIZ	VERT	
44.00	0.4	11.4	14.5	16.7	26.3	28.5	40.0
51.96	0.5	10.1	*	15.4	*	26.0	40.0
135.21	1.0	11.2	14.7	14.1	26.9	26.3	43.5
232.14	1.3	13.7	16.1	*	31.1	*	46.0
241.82	1.3	14.2	15.5	*	31.0	*	46.0

- REMARKS :**
- (1). *= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is <+/-4dB
 - (3). Any departure from specification : N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation

$$20 \log(\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} + \text{reading(dBuV)}$$
 - (6). Base channel 10

SIGNED BY TESTING ENGINEER :

Adison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature : 28 °CHumidity : 55 %RH

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	READING (dBμV)		EMISSION (dBμV/m)		LIMITS (dBμV)
			HORZ.	VER.	HORZ.	VER.	
44.00	0.4	11.4	14.8	16.9	26.6	28.7	40.0
51.96	0.5	10.1	*	15.6	*	26.2	40.0
135.21	1.0	11.2	15.0	14.2	27.2	26.4	43.5
232.14	1.3	13.7	16.4	*	31.4	*	46.0
241.82	1.3	14.2	15.2	*	30.7	*	46.0

- REMARKS :**
- (1). *= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is <+/-4dB
 - (3). Any departure from specification : N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation

$$20 \log(\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} + \text{reading(dBuV)}$$
 - (6). Base channel 20

SIGNED BY TESTING ENGINEER :

Addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature : 28 °CHumidity : 55 %RH

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dBm)	READING (dBμV)		EMISSION (dBμV/m)		LIMIT (dBμV/m)
			HORIZ.	VERT.	HORIZ.	VERT.	
85.21	0.8	8.3	*	15.1	*	24.2	40.0
51.96	0.5	10.1	*	15.2	*	25.8	40.0
135.21	1.0	11.2	13.0	*	25.2	*	43.5
461.24	1.7	17.5	*	13.7	*	32.9	46.0

REMARKS : (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is <+/-4dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation

$$20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} + \text{reading(dBuV)}$$

 (6). Handset channel 01

SIGNED BY TESTING ENGINEER : _____

Addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature : 28 °C

Humidity : 55 %RH

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dBm)	READING (dBuV)		EMISSION (dBuV/m)		LIMITS (dBuV/m)
			HORIZ	VERT	HORIZ	VERT	
85.21	0.8	8.3	*	15.4	*	24.5	40.0
51.96	0.5	10.1	*	15.8	*	26.4	40.0
135.21	1.0	11.2	13.5	*	25.7	*	43.5
461.24	1.7	17.5	*	14.0	*	33.2	46.0

- REMARKS :** (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is ± 4 dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation
 $20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} + \text{reading(dBuV)}$
 (6). Handset channel 10

SIGNED BY TESTING ENGINEER : addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Measurements were made at 3 meters.

Temperature : 28 °CHumidity : 55 %RH

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	READING (dBV)		EMISSION (dBV/m)		LIMITS (dBV/m)
			HORIZ	VERT	HORIZ	VERT	
85.21	0.8	8.3	*	15.1	*	24.2	40.0
51.96	0.5	10.1	*	16.4	*	27.0	40.0
135.21	1.0	11.2	14.1	*	26.3	*	43.5
461.24	1.7	17.5	14.1	*	33.3	*	46.0
665.81	2.2	22.3	11.8	*	36.3	*	46.0

- REMARKS :** (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is <+/-4dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation

$$20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} + \text{reading(dBuV)}$$

 (6). Handset channel 20

SIGNED BY TESTING ENGINEER : _____

Addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 1GHz to 10GHz was investigated. The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at a distance of 3 meters.

Temperature : 28 °C

Humidity : 55 %RH

FREQ. (GHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	PRE- AMP (dB)	READING (dBμV)		EMISSION (dBμV/m)		LIMIT (dBμV/m)
				HORIZ	VERT	HORIZ	VERT	
1.8046	0.5	28.8	35.9	44.4	55.1	37.77	48.45	54.0
2.7069	0.4	30.1	35.8	40.6	47.3	35.26	41.98	54.0
3.6092	0.6	32.4	36.1	39.0	40.5	35.90	37.42	54.0

- REMARKS :** (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is ± 4 dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation

$$20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} - \text{Pre-Amp.(dB)} + \text{Reading(dBuV)}$$

 (6). Base channel 01

SIGNED BY TESTING ENGINEER : addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 1 GHz to 10 GHz was investigated. The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at a distance of 3 meters.

Temperature : 28 °C

Humidity : 55 %RH

FREQ. (GHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	PRE- AMP (dB)	READING (dBuV)		EMISSION (dBuV/m)		LIMITS (dBuV/m)
				HORIZ	VERT	HORIZ	VERT	
1.8082	0.5	28.8	35.9	44.1	56.0	37.53	49.38	54.0
2.7123	0.4	30.1	35.8	38.5	46.5	33.20	41.20	54.0
3.6164	0.6	32.4	36.1	*	41.3	*	38.30	54.0

- REMARKS :**
- (1). *= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is <+/-4dB
 - (3). Any departure from specification : N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation

$$20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} - \text{Pre-Amp.(dB)} + \text{Reading(dBuV)}$$
 - (6). Base channel 10

SIGNED BY TESTING ENGINEER : _____

Addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 1GHz to 10GHz was investigated. The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at a distance of 3 meters.

Temperature : 28 °CHumidity : 55 %RH

FREQ. (GHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	PRE- AMP. (dB)	READING (dBuV)		EMISSION (dBuV/m)		LIMITS (dBuV/m)
				HORIZ	VERT	HORIZ	VERT	
1.8122	0.5	28.8	35.9	45.9	56.5	39.32	49.87	54.0
2.7183	0.4	30.1	35.8	42.8	47.3	37.50	42.00	54.0
3.6244	0.6	32.4	36.1	40.1	39.7	37.01	36.55	54.0

- REMARKS :** (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is ± 4 dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation

$$20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} - \text{Pre-Amp.(dB)} + \text{Reading(dBuV)}$$

 (6). Base channel 20

SIGNED BY TESTING ENGINEER :

addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 1GHz to 10GHz was investigated. The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at a distance of 3 meters.

Temperature : 28 °C

Humidity : 55 %RH

FREQ. (GHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	PRE- AMP (dB)	READING (dBuV)		EMISSION (dBuV/m)		LIMIT (dBuV/m)
				HORIZ	VERT	HORIZ	VERT	
1.8478	0.5	28.8	35.9	50.4	43.5	43.78	36.87	54.0
2.7717	0.5	32.0	36.0	38.7	39.1	35.24	35.55	54.0
3.6956	0.6	32.4	36.1	37.2	*	34.10	*	54.0

- REMARKS :** (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is <+/-4dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation

$$20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} - \text{Pre-Amp.(dB)} + \text{Reading(dBuV)}$$

 (6). Handset channel 01

SIGNED BY TESTING ENGINEER : _____

addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 1 GHz to 10 GHz was investigated. The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at a distance of 3 meters.

Temperature : 28 °C

Humidity : 55 %RH

FREQ. (GHz)	FACTOR (dB)	ANT FACTOR (dB/m)	PRE- AMP (dB)	READING (dBuV)		EMISSION (dBuV/m)		LIMIT (dBuV/m)
				HORIZ	VERT	HORIZ	VERT	
1.8514	0.5	28.8	35.9	53.1	43.1	46.49	36.53	54.0
2.7771	0.5	32.0	36.0	41.8	39.6	38.33	36.06	54.0
3.7028	0.6	32.4	36.1	37.8	37.9	34.72	34.80	54.0

- REMARKS :** (1). *= Measurement does not apply for this frequency.
 (2). Uncertainty in radiated emission measured is ± 4 dB
 (3). Any departure from specification : N/A
 (4). Factor will include cable loss and correction factor.
 (5). Sample calculation

$$20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} - \text{Pre-Amp.(dB)} + \text{Reading(dBuV)}$$

 (6). Handset channel 10

SIGNED BY TESTING ENGINEER :

addison

6.7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 1 GHz to 10 GHz was investigated. The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at a distance of 3 meters.

Temperature : 28 °C

Humidity : 55 %RH

FREQ. (GHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	PRE- AMP (dB)	READING (dBuV)		EMISSION (dBuV/m)		LIMITS (dBuV/m)
				HORIZ	VERT	HORIZ	VERT	
1.8558	0.5	28.8	35.9	55.3	42.8	48.70	36.20	54.0
2.7837	0.5	32.0	36.0	43.6	39.2	40.10	35.70	54.0
3.7116	0.6	32.4	36.1	37.5	*	34.40	*	54.0

- REMARKS :**
- (1). *= Measurement does not apply for this frequency.
 - (2). Uncertainty in radiated emission measured is ± 4 dB
 - (3). Any departure from specification : N/A
 - (4). Factor will include cable loss and correction factor.
 - (5). Sample calculation

$$20 \log (\text{emission}) \text{ uV/m} = \text{Factor(dB)} + \text{Ant. factor(dB/m)} - \text{Pre-Amp.(dB)} + \text{Reading(dBuV)}$$
 - (6). Handset channel 20

SIGNED BY TESTING ENGINEER :

Addison

7 BANDWITH

7.1 Limit

Base channel 01	:	Minimum 20dB	bandwidth = 375.0 kHz
Base channel 10	:	Minimum 20dB	bandwidth = 388.0 kHz
Base channel 20	:	Minimum 20dB	bandwidth = 385.0 kHz
Handset channel 01	:	Minimum 20dB	bandwidth = 350.0 kHz
Handset channel 10	:	Minimum 20dB	bandwidth = 365.0 kHz
Handset channel 20	:	Minimum 20dB	bandwidth = 350.0 kHz

7.2 Test Result

Please see attached plotter.

***Base channel 01**

10:18:50 JUL 07, 1999

REF 107.0 dBμV #AT 10 dB

PEAK

LOG

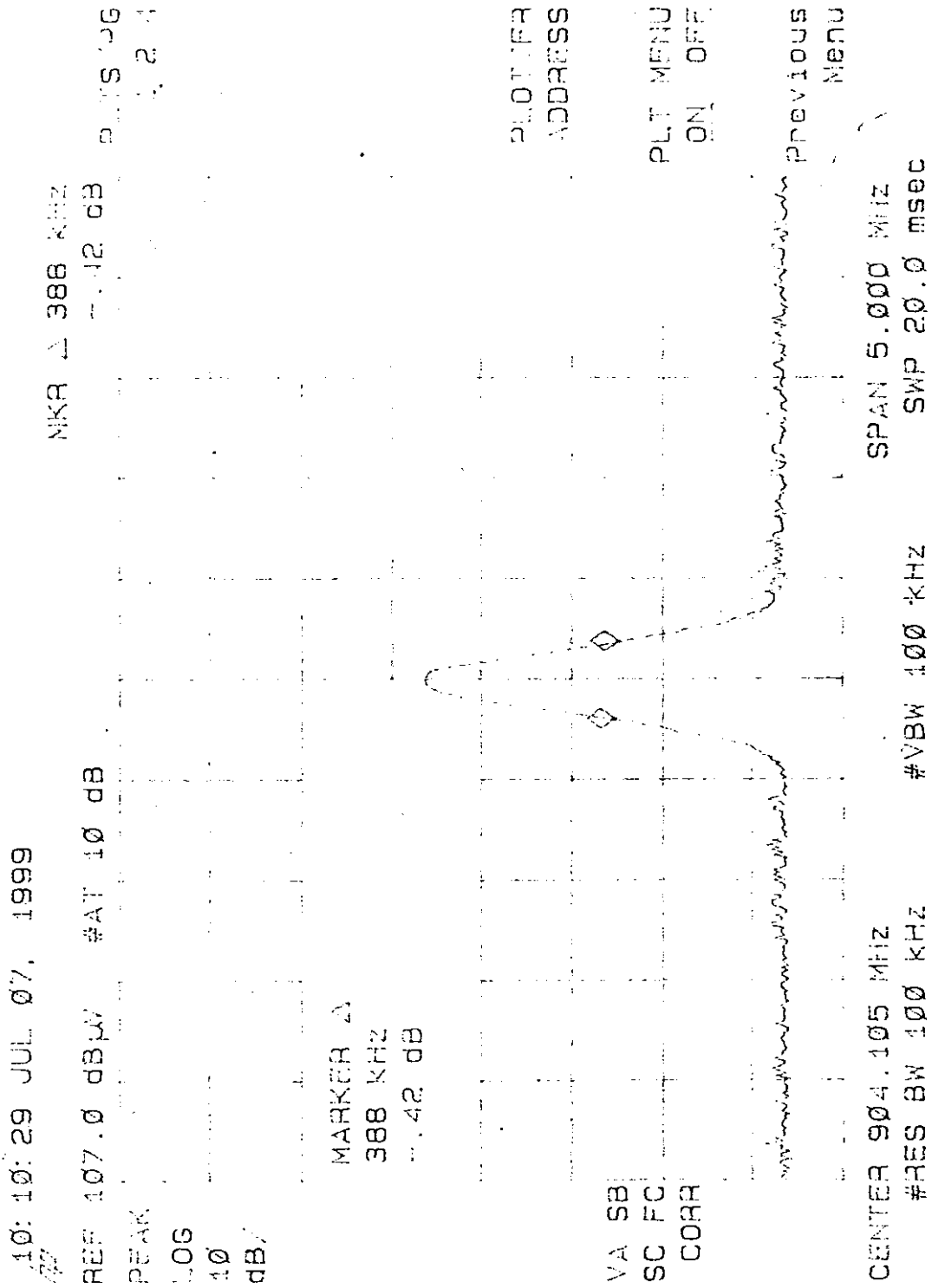
10

dB/

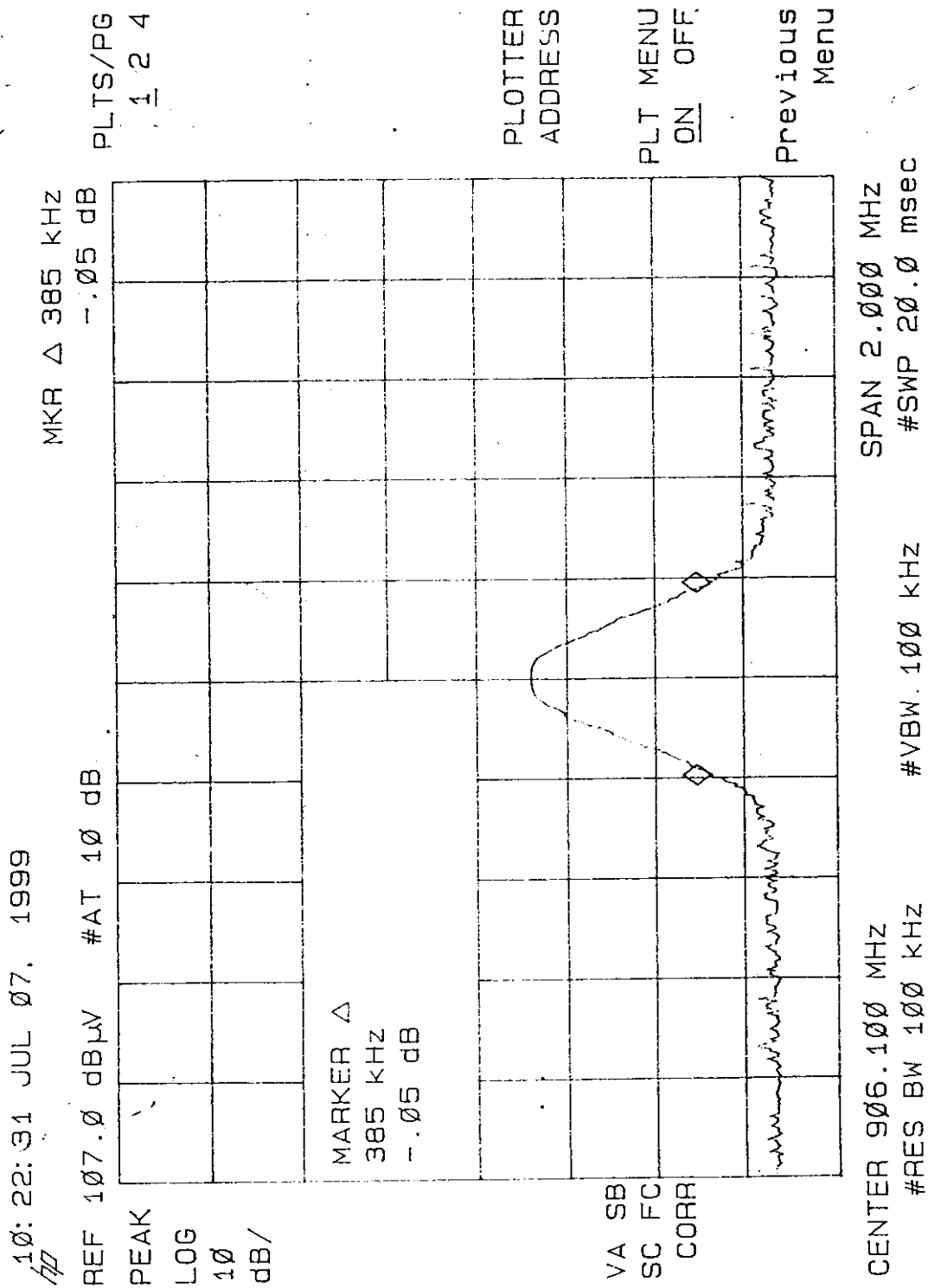
MKR Δ 375 kHz
-54 dBPLTS/PG
1 2 4MARKER Δ
375 kHz
-54 dBPLOTTER
ADDRESSPLT MENU
ON OFFPrevious
MenuVA SB
SC FC
CORRCENTER 902.305 MHz
#RES BW 100 kHzSPAN 2.000 MHz
#SWP 20.0 msec

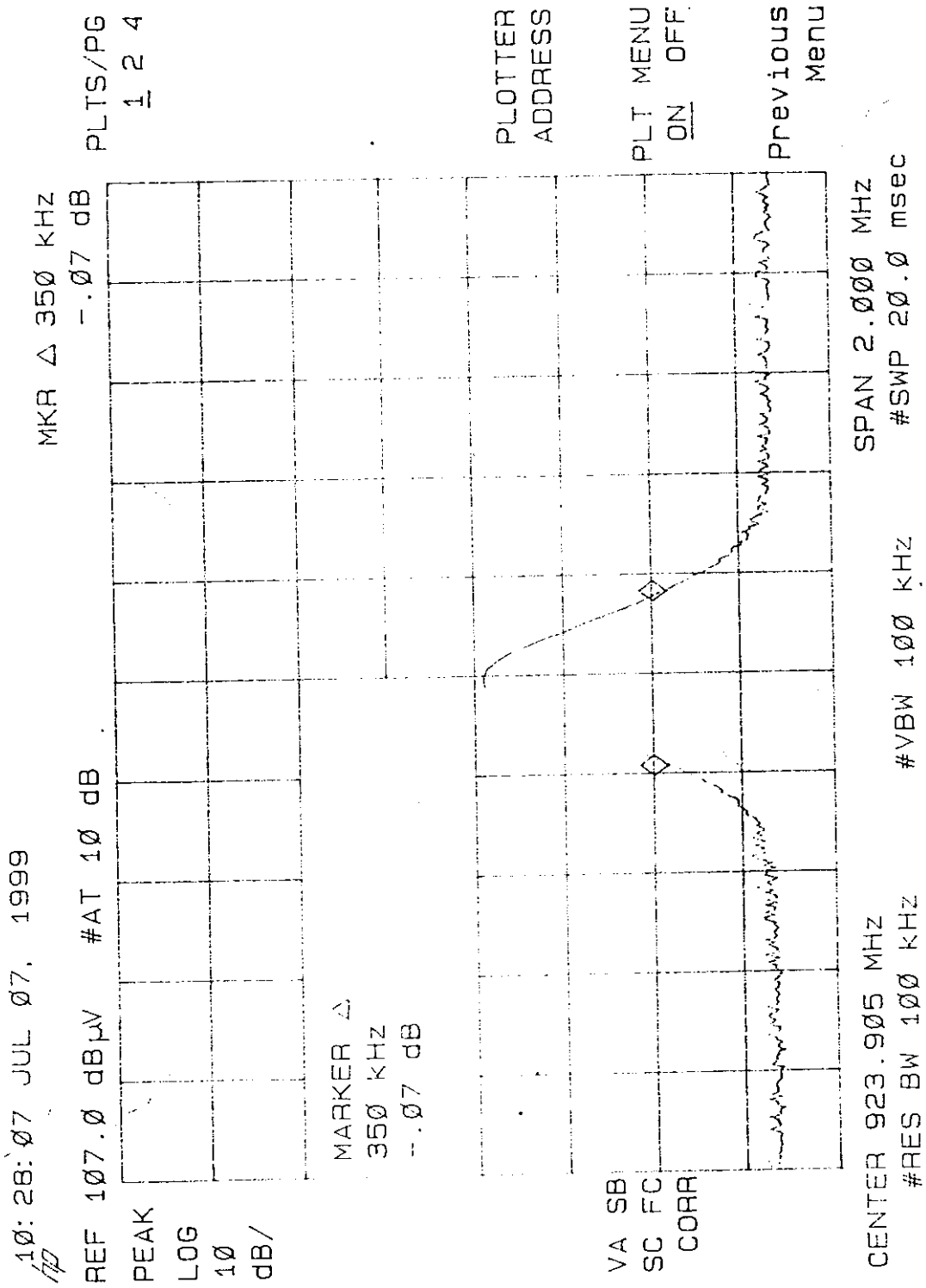
#VBW 100 kHz

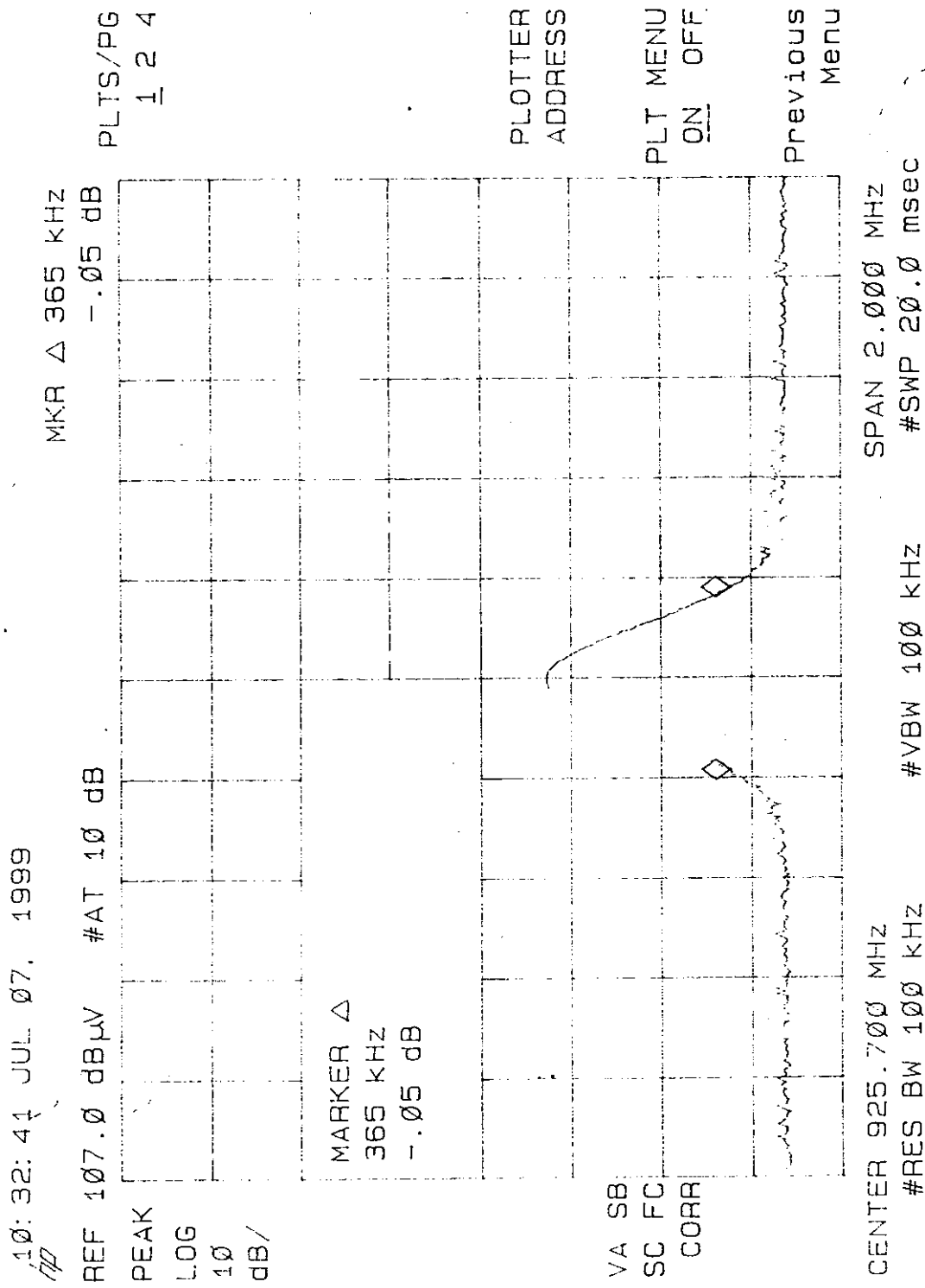
*Base channel 10

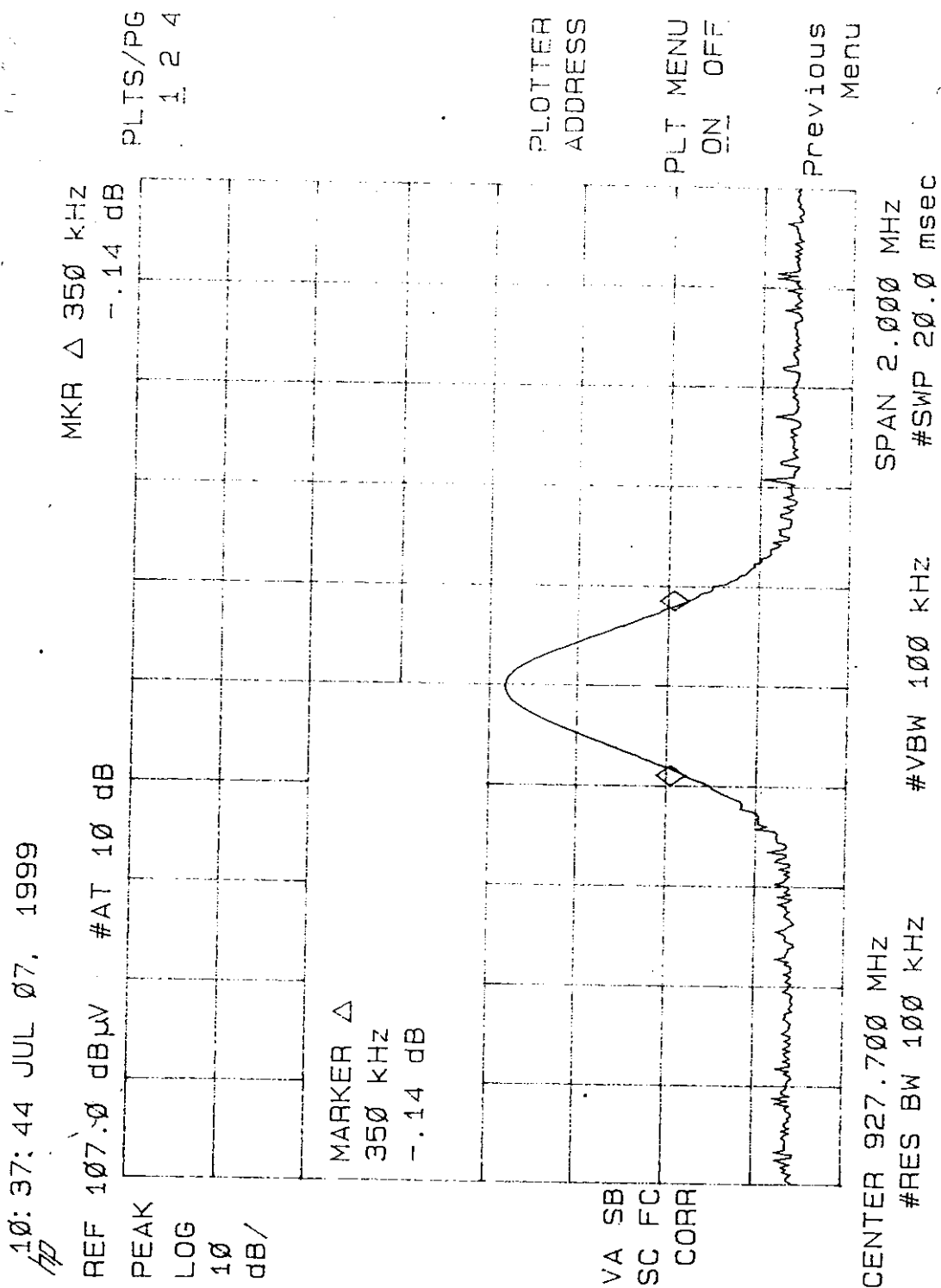


*Base channel 20



***Handset channel 01**

***Handset channel 10**

***Handset channel 20**

8. VERIFY CHANNELS AND FREQUENCIES

Verify the Frequency Pairs

Channel	Handset (MHz)	Base (MHz)	Channel	Handset (MHz)	Base (MHz)
1	923.900	902.300	14	926.500	904.900
2	924.100	902.500	15	926.700	905.100
3	924.300	902.700	16	926.900	905.300
4	924.500	902.900	17	927.100	905.500
5	924.700	903.100	18	927.300	905.700
6	924.900	903.300	19	927.500	905.900
7	925.100	903.500	20	927.700	906.100
8	925.300	903.700			
9	925.500	903.900			
10	925.700	904.100			
11	925.900	904.300			
12	926.100	904.500			
13	926.300	904.700			

Note : This is for sure that all frequencies are in 902 MHz to 928 MHz.

Section 15.214(d) The security code is set automatic:

Every time when you place the handset in the base, your cordless will randomly select one of 65,530 possible security codes.