



12.0 FREQUENCY STABILITY - PART 2.1055a (**Temperature**)

The frequency stability was measured from -30° to +50° centigrade at intervals of 10° centigrade throughout the range. Prior to each frequency measurement, the equipment was left alone for a sufficient period of time (approximately 30 minutes or more) to allow the components of the Shure UT2 Vocal Artist Transmitter oscillator circuitry to stabilize. The following information was taken:

**FREQUENCY STABILITY FOR TEMPERATURE VARIATION IN MHz:**

-30°	740.391140
-20°	740.391080
-10°	740.388070
0°	740.382905
+10°	740.382845
+20°	740.375690
+30°	740.371285
+40°	740.365580
+50°	740.359700

**Worst Case Variance:**

**31440 Hz**

As stated in Part 74, Section 74.861 e-4 the Frequency Tolerance and Margin for this range are as follows:

**Frequency Tolerance: = 0.005%**

**Ambient Frequency: = 740.371465**

**740.371465 \* 0.005% = 37018.57 Hz**

**This is well within the specified limits.**



EMC Test Services  
1250 Peterson Drive, Wheeling, Illinois 60090, USA

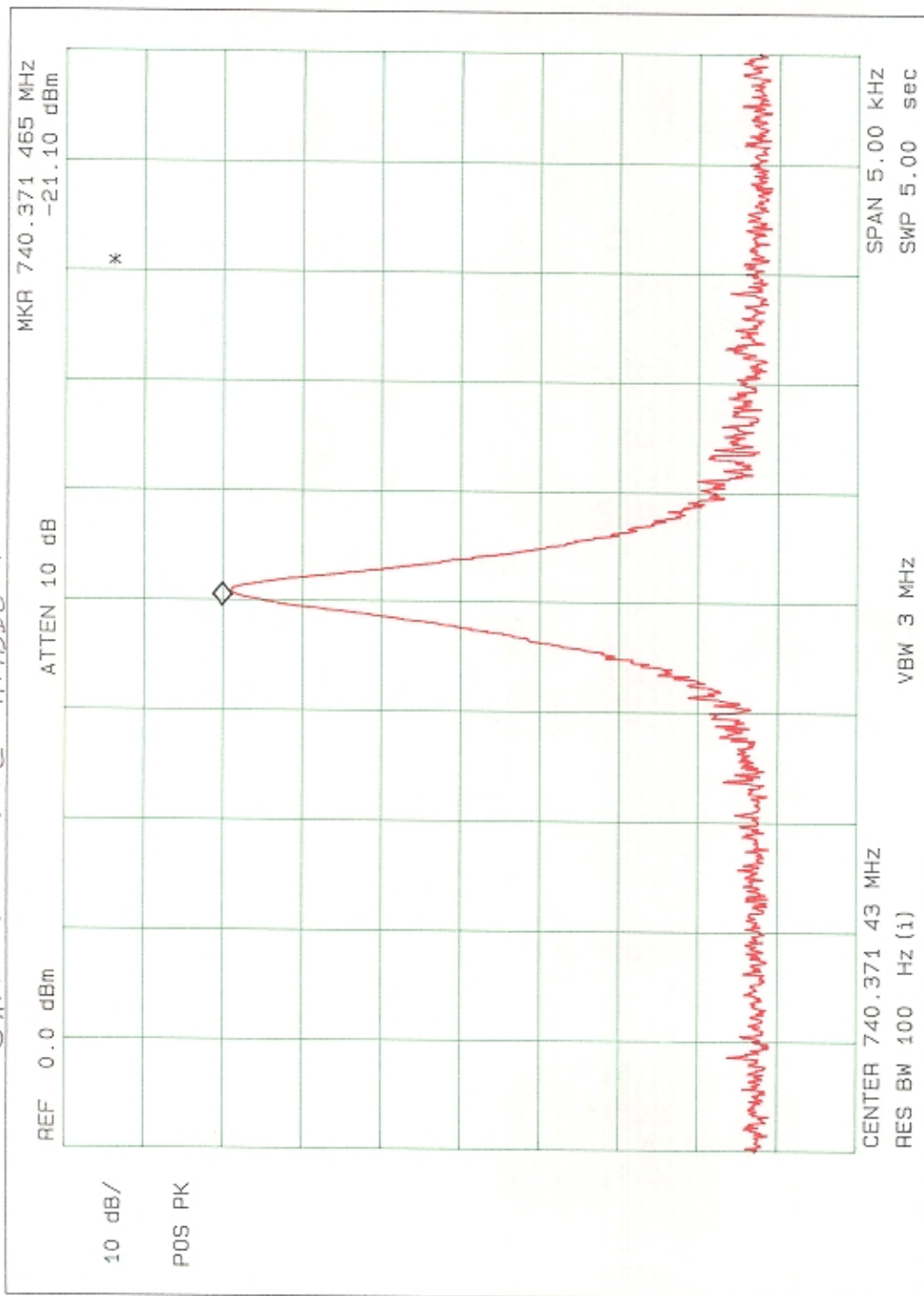
Report No. 7584  
09/22/99

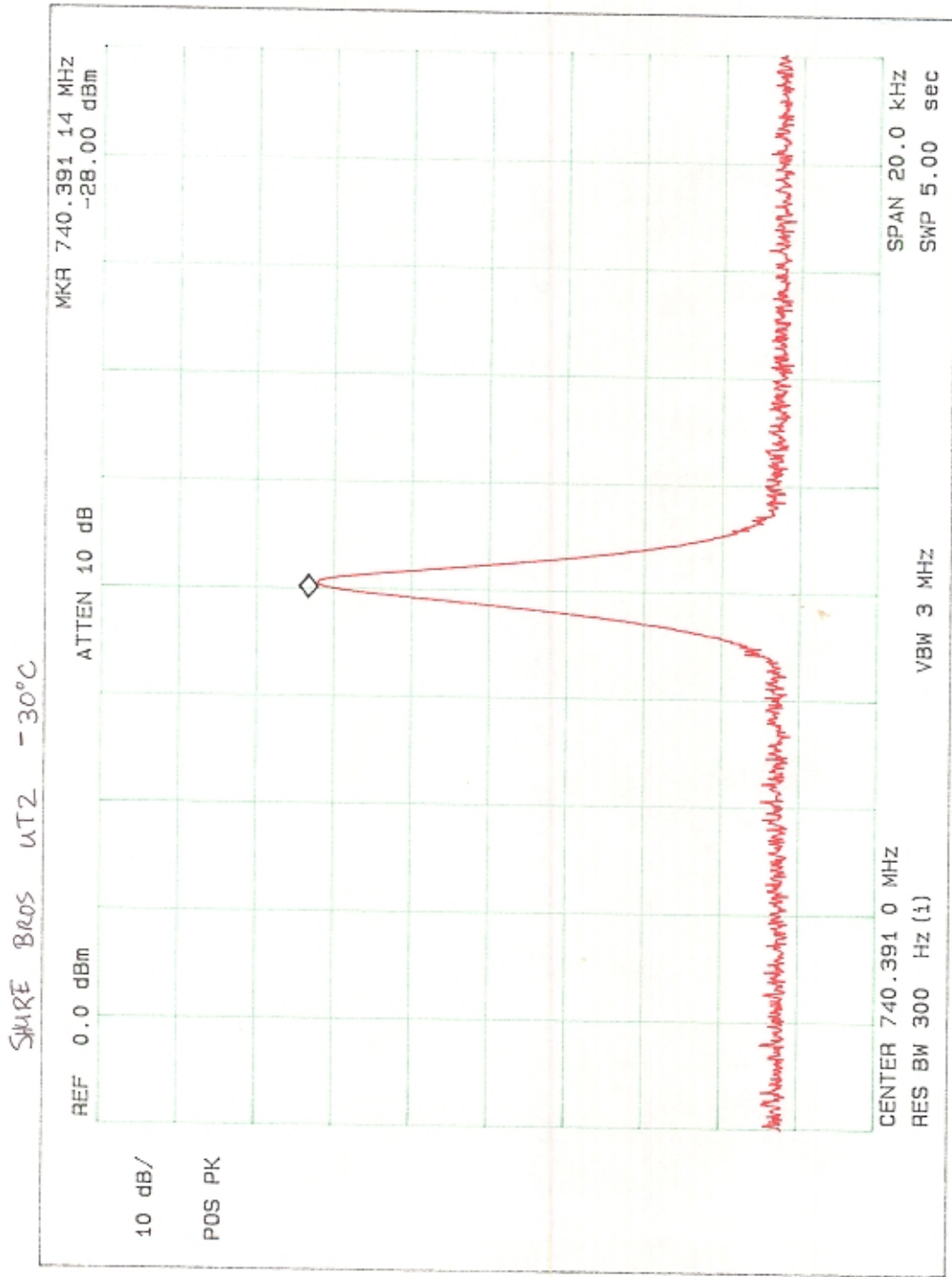
## **GRAPHS TAKEN FOR FREQUENCY**

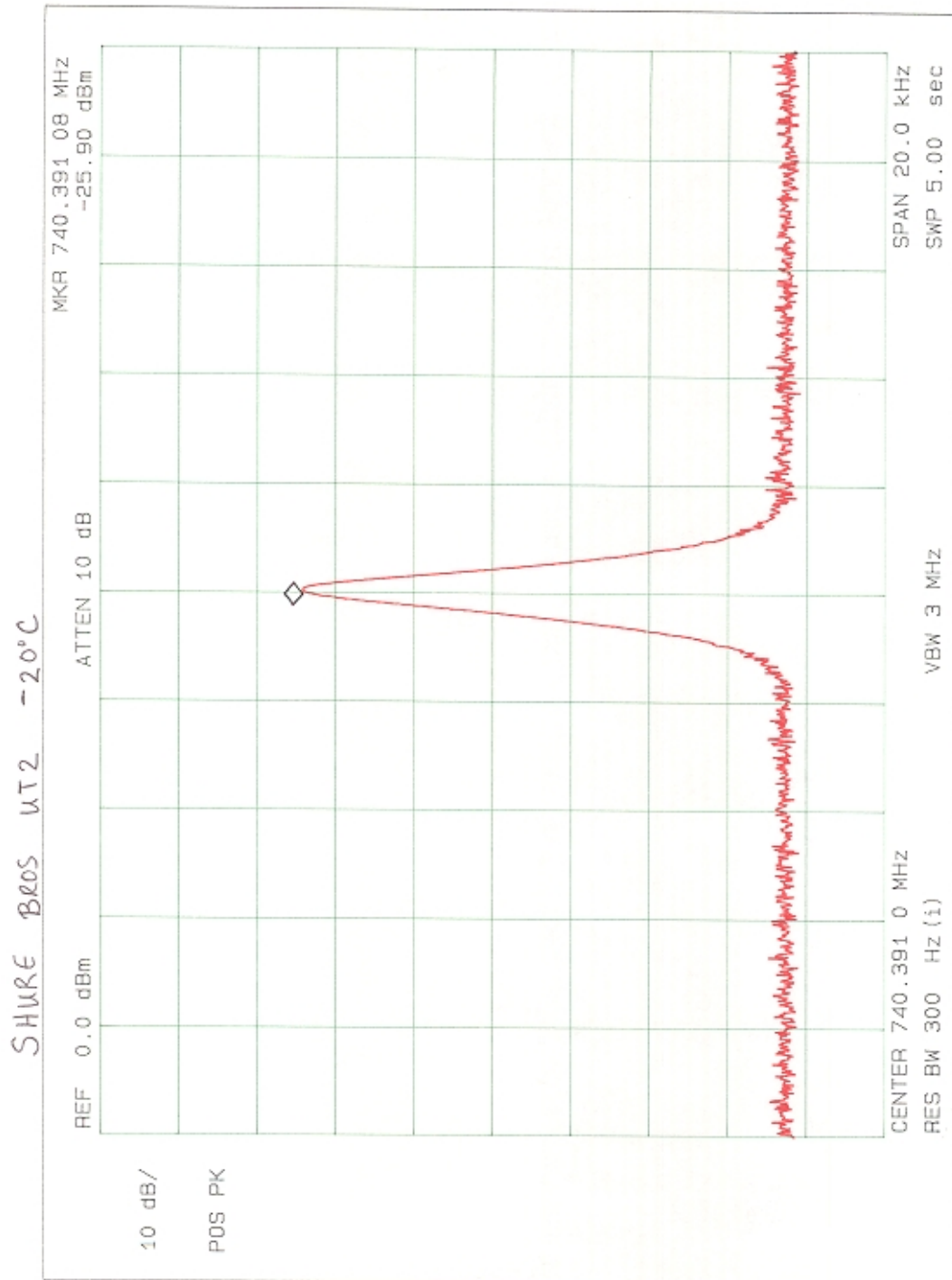
### **STABILITY WHEN VARYING THE TEMPERATURE**

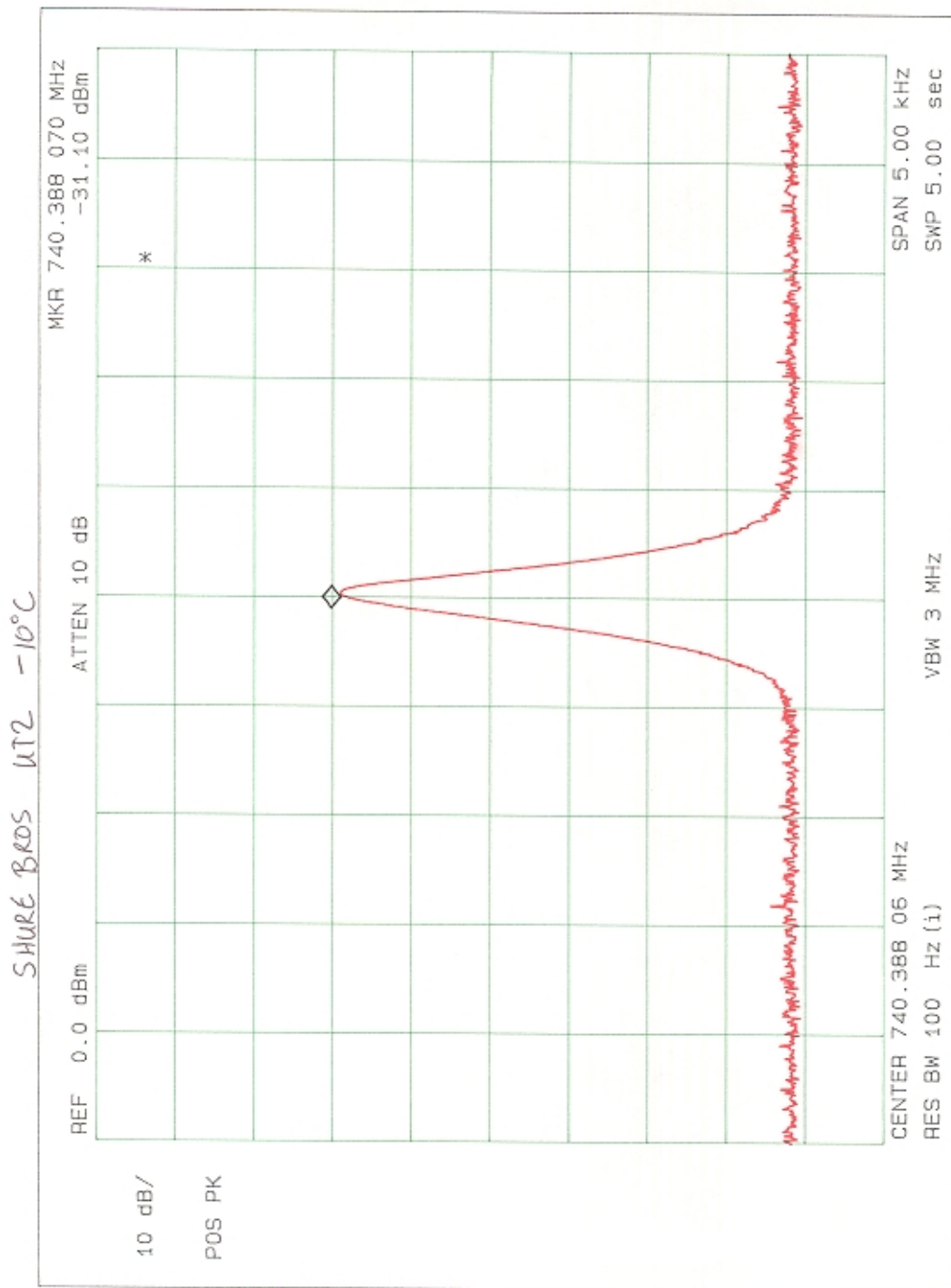
#### **PART 2.1055A**

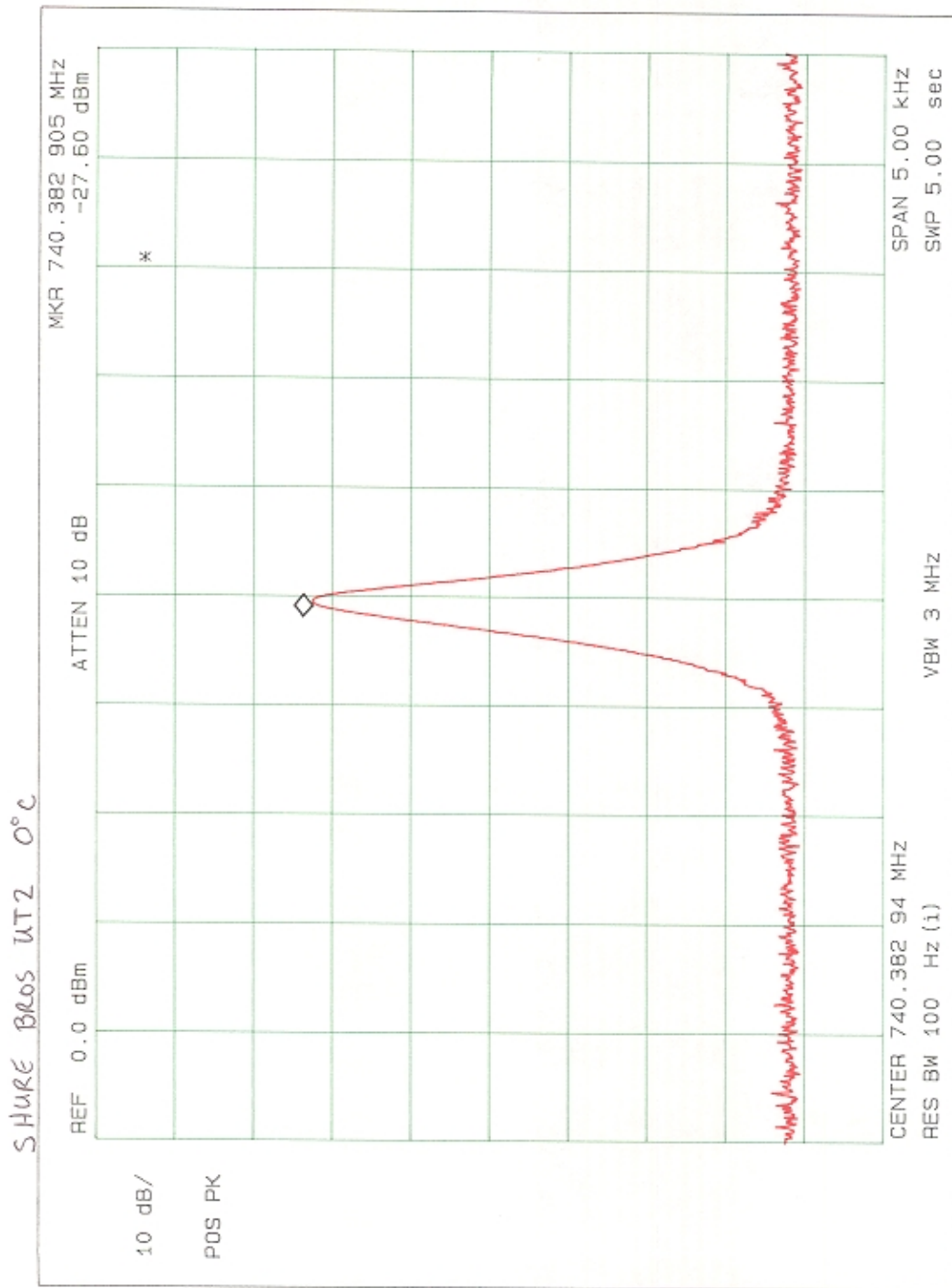
SHURE BROS UT2 AMBIENT

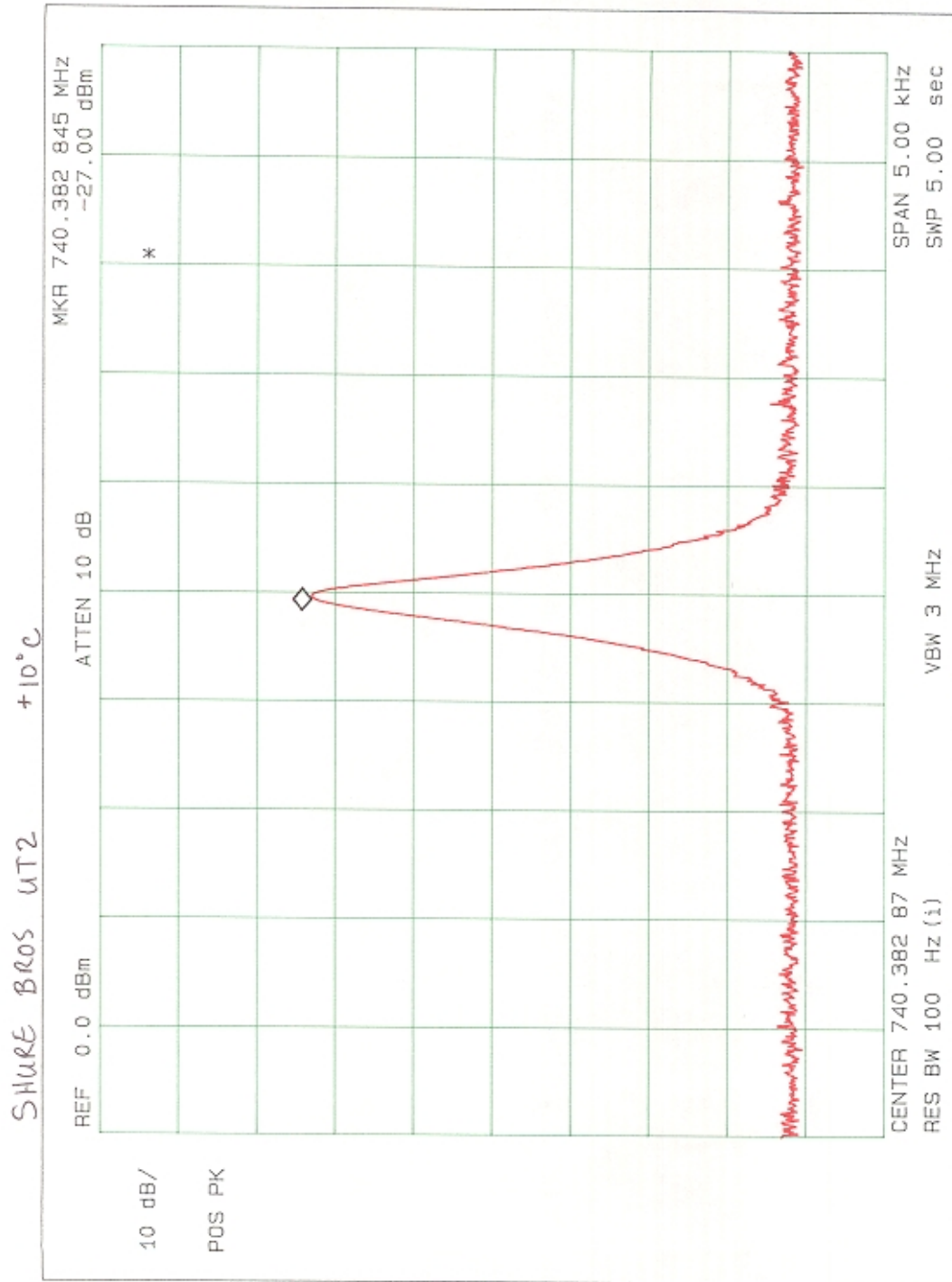




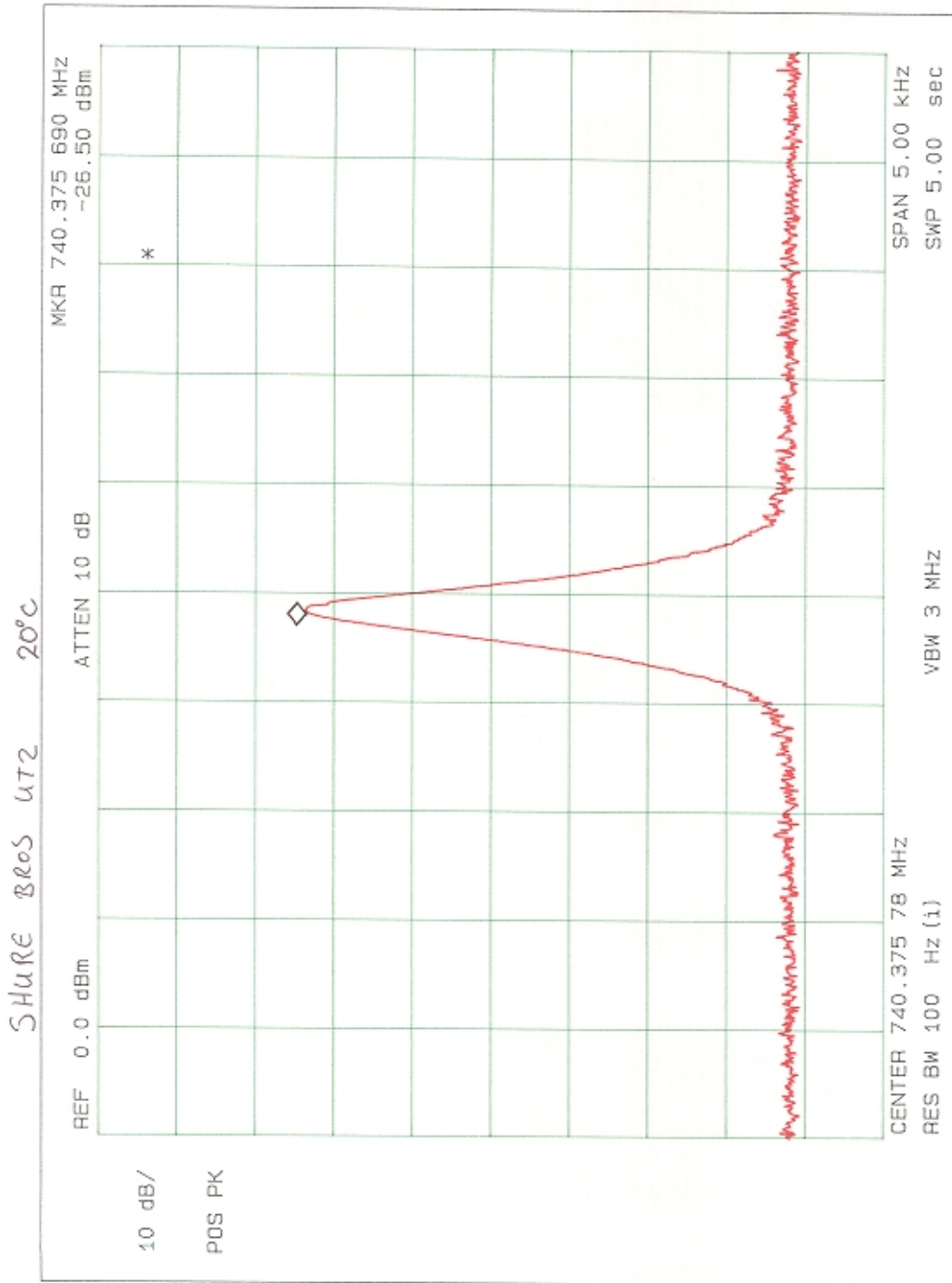


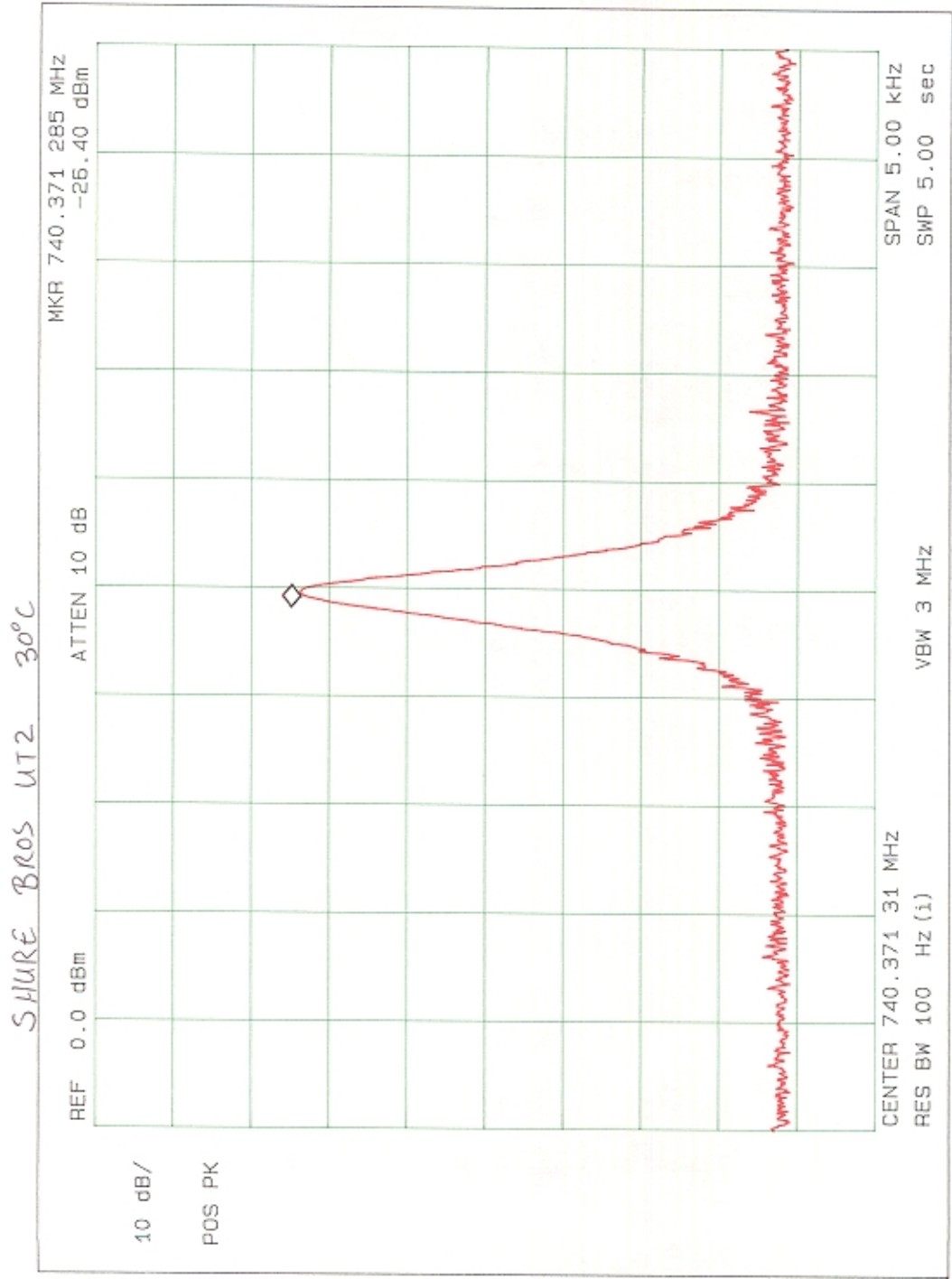


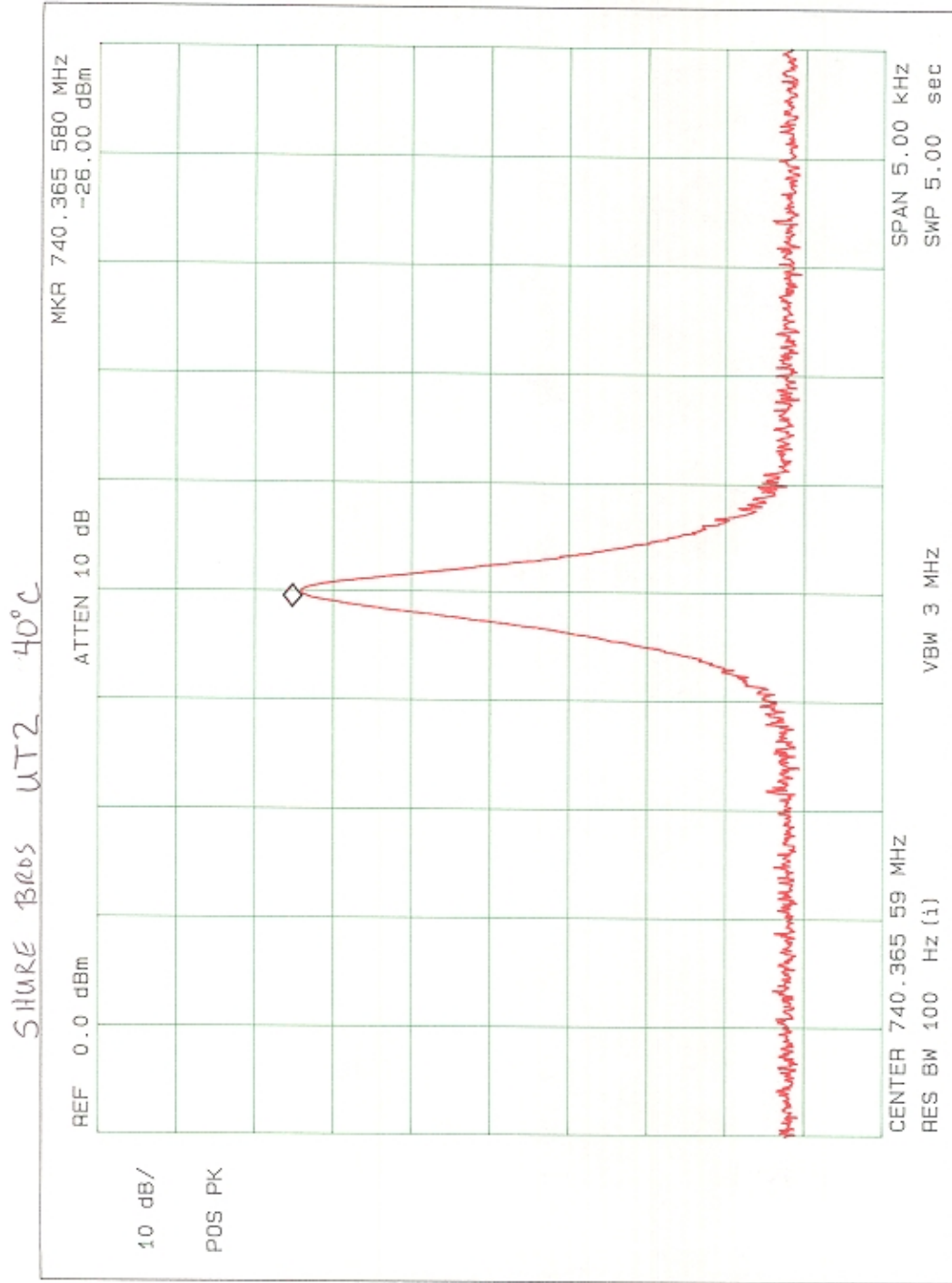




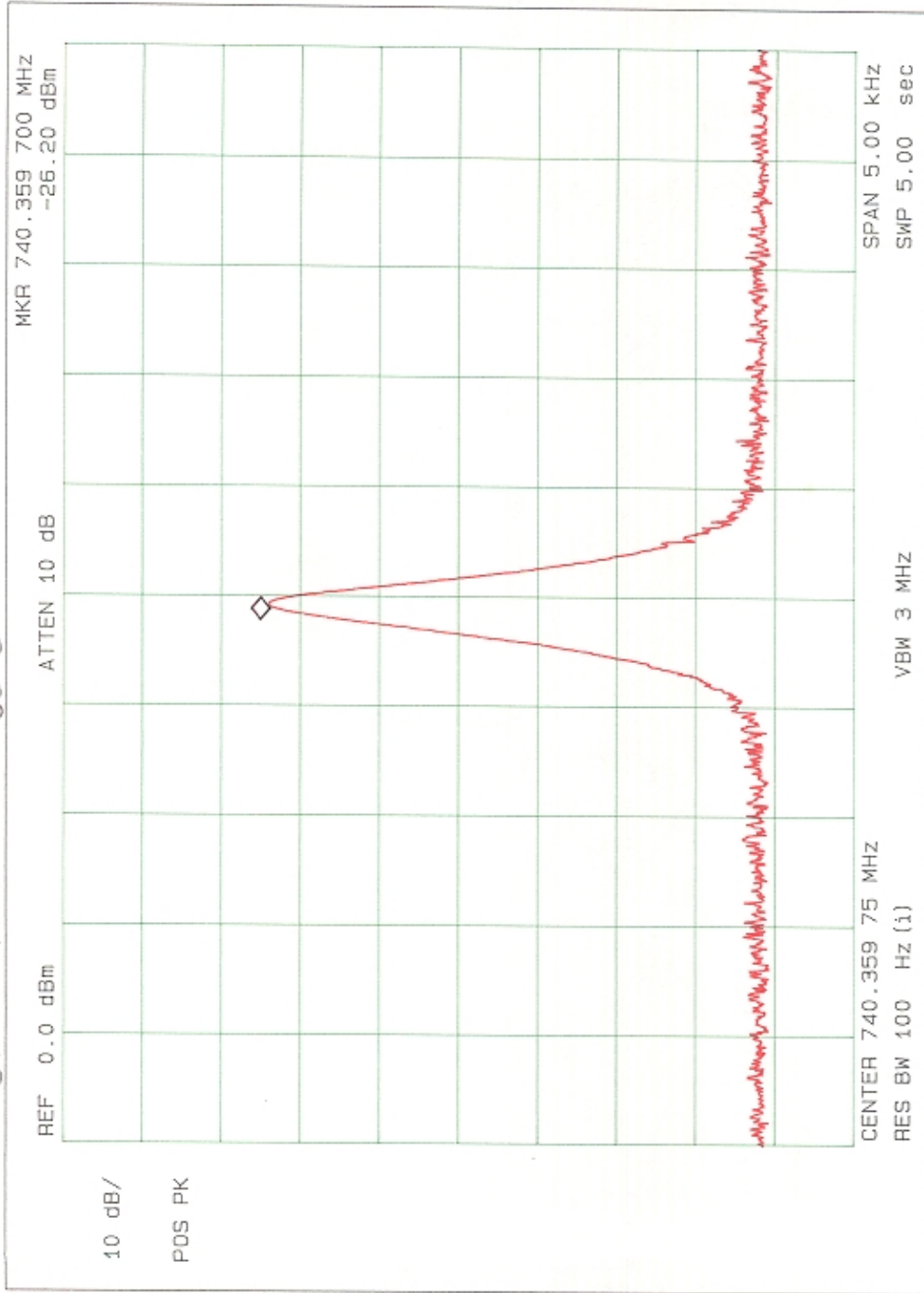








SHURE BROS W12 50°C





13.0 FREQUENCY STABILITY - PART 2.1055d (**Voltage**)

The frequency stability of Shure UT2 Vocal Artist Transmitter was measured by varying the primary supply voltage from 85% to 115% of nominal value for all equipment other than hand carried battery equipment.

**FREQUENCY STABILITY FOR VOLTAGE VARIATION:**

85%	0
100%	0
115%	0

**FREQUENCY STABILITY FOR HAND HELD DEVICES:**

For hand carried, battery powered equipment, the supply voltage was reduced to the battery operating end point specified by the manufacturer. Readings were taken at the reduced end point and with a fresh battery:

**Fresh Battery verses Battery end point:**

- Frequency #1 **740.3750 Hz**
- Frequency #2 **740.3725 Hz**
- Frequency #3 **751.8750Hz**
- Frequency #4 **751.8740 Hz**

As stated in Part 74, Section 74.861 e-4 the Frequency Tolerance and Margin for this range are as follows:

**Frequency Tolerance: 0.005%**

**Limit: 37018.57 Hz**



#### 14.0 PHOTO INFORMATION AND TEST SET-UP

The test set-up can be seen on the accompanying photo page.

Item 0 Shure UT2 Vocal Artist Transmitter  
FCC ID#: DD4UT2 SN: NA

Item 1 DLS Function Generator

Item 2 Coax Cable 1m

Item 3

Item 4

Item 5

Item 6

Item 7

Item 8

Item 9

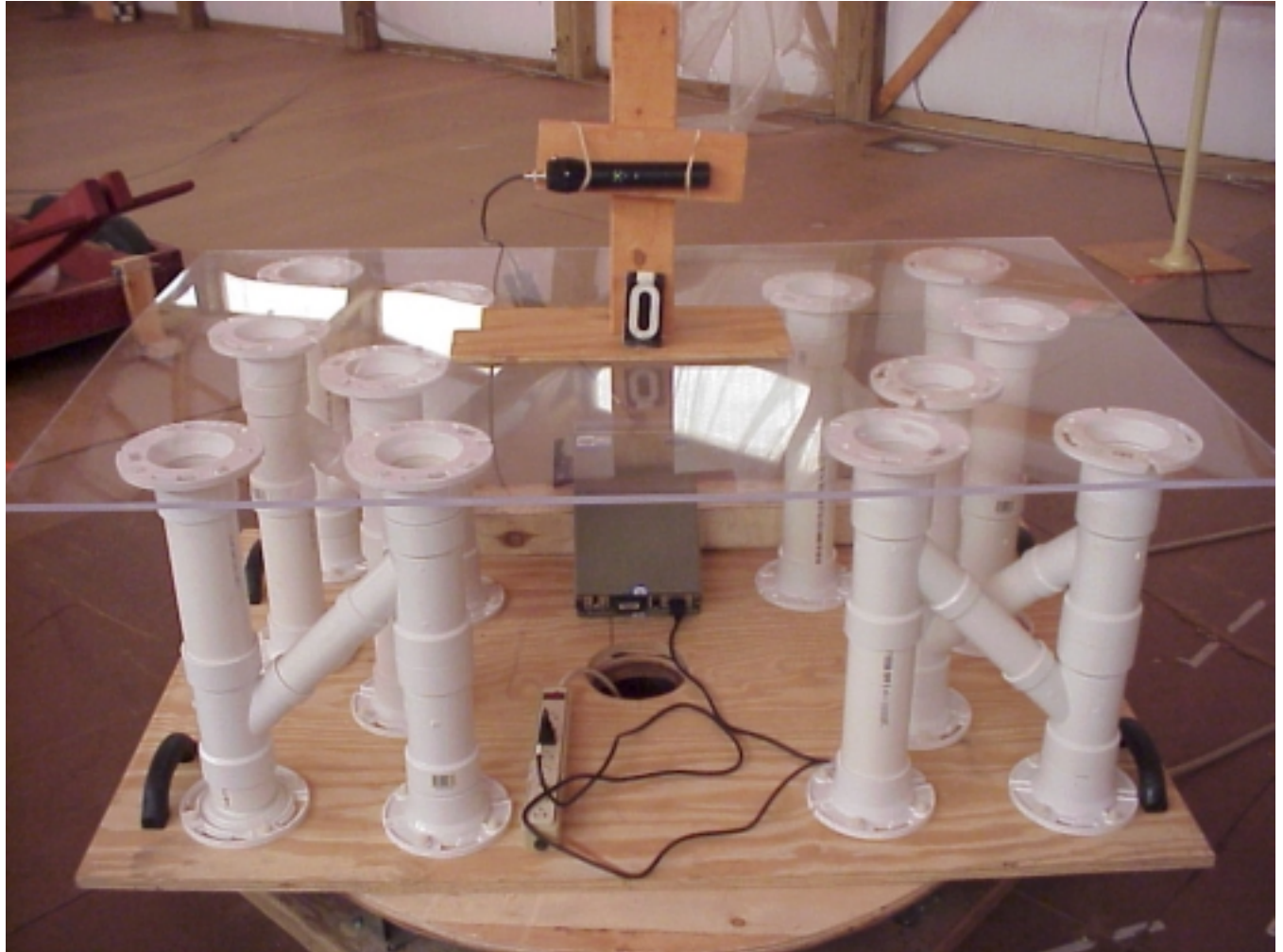
Item 10

15.0 RADIATED PHOTOS TAKEN DURING TESTING.



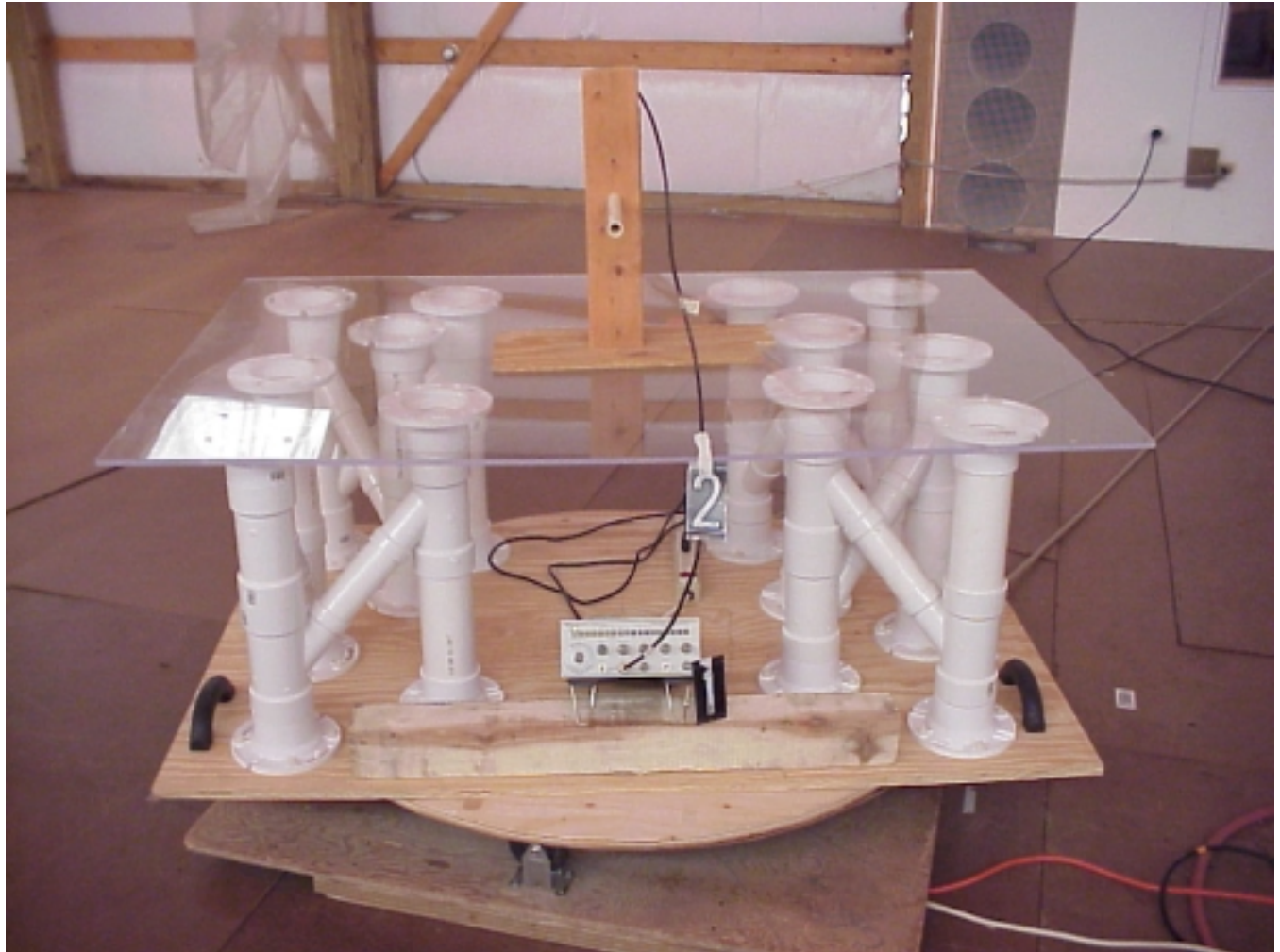


15.0 RADIATED PHOTOS TAKEN DURING TESTING.

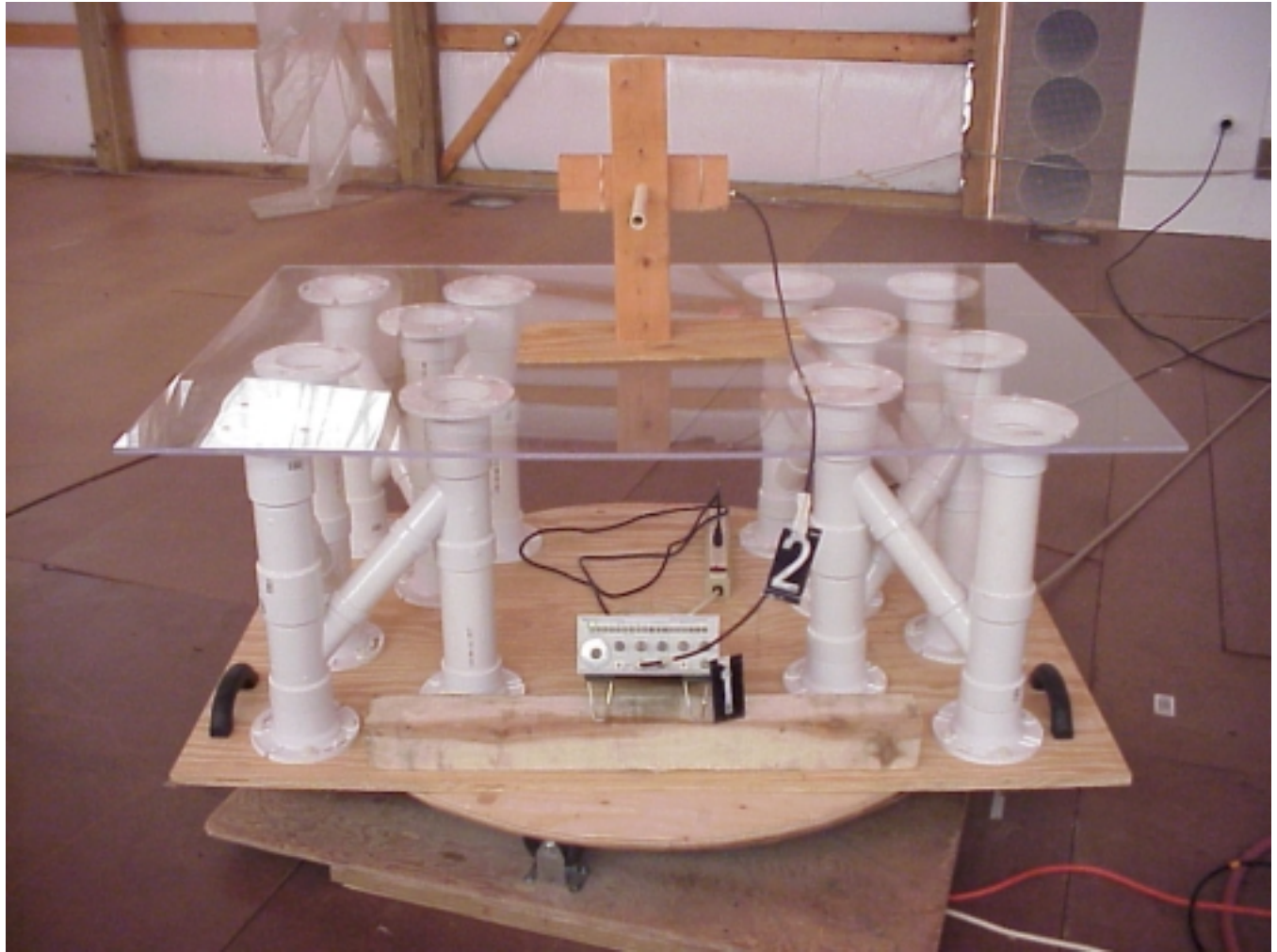




15.0 RADIATED PHOTOS TAKEN DURING TESTING.



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15.0 RADIATED PHOTOS TAKEN DURING TESTING.





## 16.0 CHANGE INFORMATION

The following changes were implemented during the testing and must be incorporated into the production units to ensure compliance.

Change 1. There were no changes made at D.L.S. Electronic Systems, Inc.

Change 2.

Change 3.

Change 4.

Change 5.



16.0 CHANGE INFORMATION (CON'T)

Change 6.

Change 7.

Change 8.

Change 9.

Change 10.

The responsibility of implementing the changes listed in this report is accepted or I certify that no changes were made

by \_\_\_\_\_  
Signature Title

for \_\_\_\_\_  
Company Name Date



## 17.0 RESULTS OF TESTS

The emission test results can be seen on pages at the end of this report. Data sheets indicating the open field radiated measurements can also be found with this report. Those points on the radiated charts shown with a yellow mark are background frequencies that were verified during the test.

## 18.0 CONCLUSION

It was found that the Handheld wireless microphone transmitter, Model Number UT2, S/N NA **meets** the radio interference emission requirements of the FCC "Rules and Regulations", Part 74, Subpart H, Sections 74.801 to 74.882 for Low Power Auxiliary Stations operating in the 614 to 806 MHz Frequency Band. This test report relates only to the items tested.

This report contains the following number of pages.

Text: 33 pages

Data Summary: 4 pages

Charts: 33 pages



TABLE 1 - EQUIPMENT LIST

Test Equipment	Manufacturer/Description	Model Number	Serial Number	Frequency Range	Cal Due Date
*Spectrum Analyzer	Hewlett/Packard	8566B	2240A 02041	25 Hz –22 GHz	11/99
Quasi-Peak Adapter	Hewlett/Packard	85650A	2043A 00121	10 kHz – 1 GHz	11/99
***Spectrum Analyzer	Hewlett/Packard	8591A	3009A 00700	9 kHz- 1.8 GHz	3/00
Receiver	Electrometrics	EMC-25 Mark-III	772	.01-1000 MHz	9/99
Meter Module	Electrometrics	CRM-25	162	.01-1000 MHz	9/99
Receiver	Electrometrics	EMC-25 Mark-III	804	.01-1000 MHz	10/99
Meter Module	Electrometrics	CRM-25	138	.01-1000 MHz	10/99
Receiver	Electrometrics	EMC-25 Mark-III	645	.01-1000 MHz	9/99
Meter Module	Electrometrics	CRM-25	116	.01-1000 MHz	9/99
Receiver	Electrometrics	EMC-30 Mark-III	44168	.01-1000 MHz	7/00
Antenna	Electrometrics	BIA-25	2453	20 - 200 MHz	4/00
Antenna	Electrometrics	LPA-25	1114	200 - 1000 MHz	4/00
Antenna	Electrometrics	BIA-25	2614	20 - 200 MHz	4/00
Antenna	Electrometrics	LPA-25	1205	200 - 1000 MHz	4/00
Antenna	Electrometrics	BIA-25	4785	20 - 200 MHz	4/00
Antenna	Electrometrics	LPA-25	4895	200 - 1000 MHz	4/00
Antenna	EMCO	3115	2479	1 – 18 GHz	4/00

\*Firmware Version 29.9.86 Software Version 85864C Rev A

\*\*Firmware Version 14.1.85 Software Version 85864C Rev A

\*\*\*Firmware Version 5.1.3 Software Version 82301-12029 Rev C

I/O Initial Calibration Only