

EXHIBIT H

Paragraph 2.989

Occupied Bandwidth



Retlif Testing Laboratories

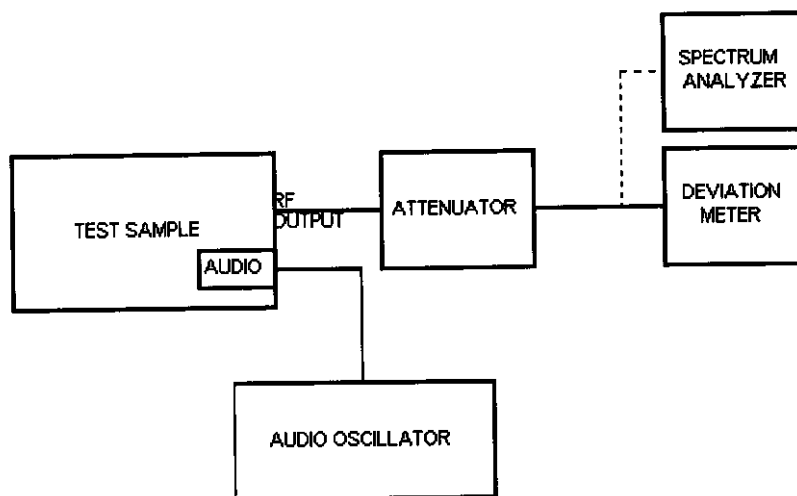
Test Report Number R-8034-1
FCC ID: CCRT32M

OCCUPIED BANDWIDTH (PARA.2.989)

A. Measurement Procedure:

An audio signal was electrically coupled to the audio input terminals of the test sample. The RF output was monitored using a deviation meter. The audio input level was increased to produce 50% modulation. The RF output was then loosely coupled through external attenuators to a spectrum analyzer and the audio level was increased by 16 dB. The occupied bandwidth of the RF carrier, modulated at 50% plus 16 dB, was then measured. The above procedure was performed with the audio input frequencies of 1000 Hz, 2500 Hz and 15 kHz applied to the unit. The modulated signal must be within the template as specified by the applicable paragraph in Part 74. The above was performed at the low and high frequencies.

Setup of the test is shown below:



B. Test Results:

The results for the above test are shown on the following six (6) data sheet.



Retlif Testing Laboratories

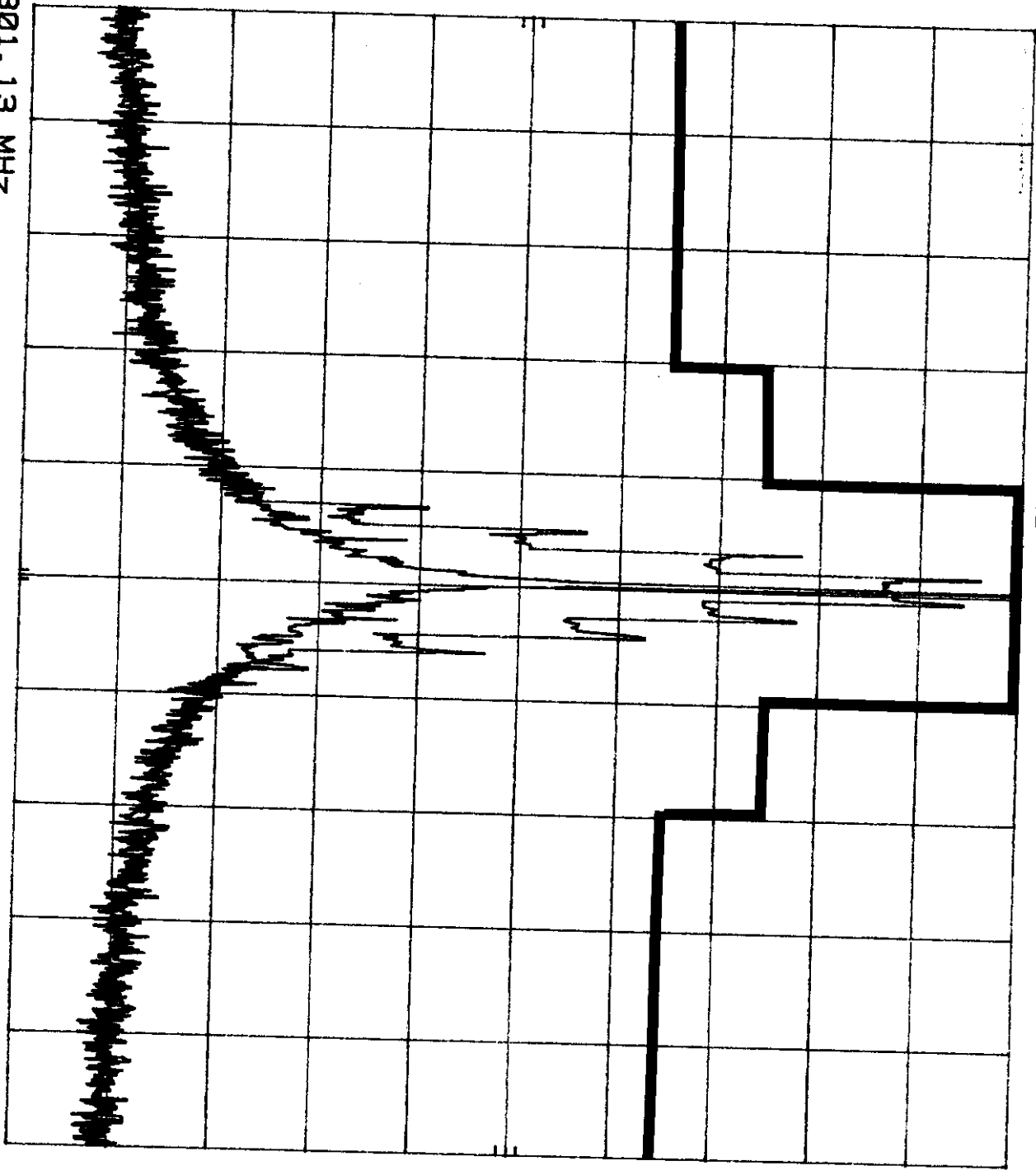
Test Report Number R-8034-1
FCC ID: CCRT32M

Date: April 20, 1999
 Tech: Dennis Cortes
 Sheet 2 of 6
 Audio Input: 2500Hz @ 50% Modulation, 16dBm
 Carrier Frequency: 801.125
 Occupied Bandwidth: FCC 74.861(5)
 Model No.: T32M
 FCC ID: CCRT32M
 Test Sample: Wireless Beltpack Transmitter
 Customer: Samson Technologies



Retlif Testing Laboratories
 Report No. R-8034-1

R-8034 SAMSON BELTPACK DCC BW 4/20/99 DC
 REF 95.6 DBμV ATTEN 10 DB
 hp
 10 DB/



CENTER 801.13 MHZ
 RES BW 300 HZ
 VBW 1 KHZ
 SPAN 1.00 MHZ
 SWP 30.0 sec

Date: April 20, 1999
 Tech: Dennis Cortes
 Sheet 3 of 6
 Audio Input: 15000Hz @ 50% Modulation 16dBm
 Carrier Frequency: 801.125
 Occupied Bandwidth: FCC 74.861(5)
 Model No.: T32M
 FCC ID: CCRT32M
 Test Sample: Wireless Backpack Transmitter
 Customer: Samson Technologies

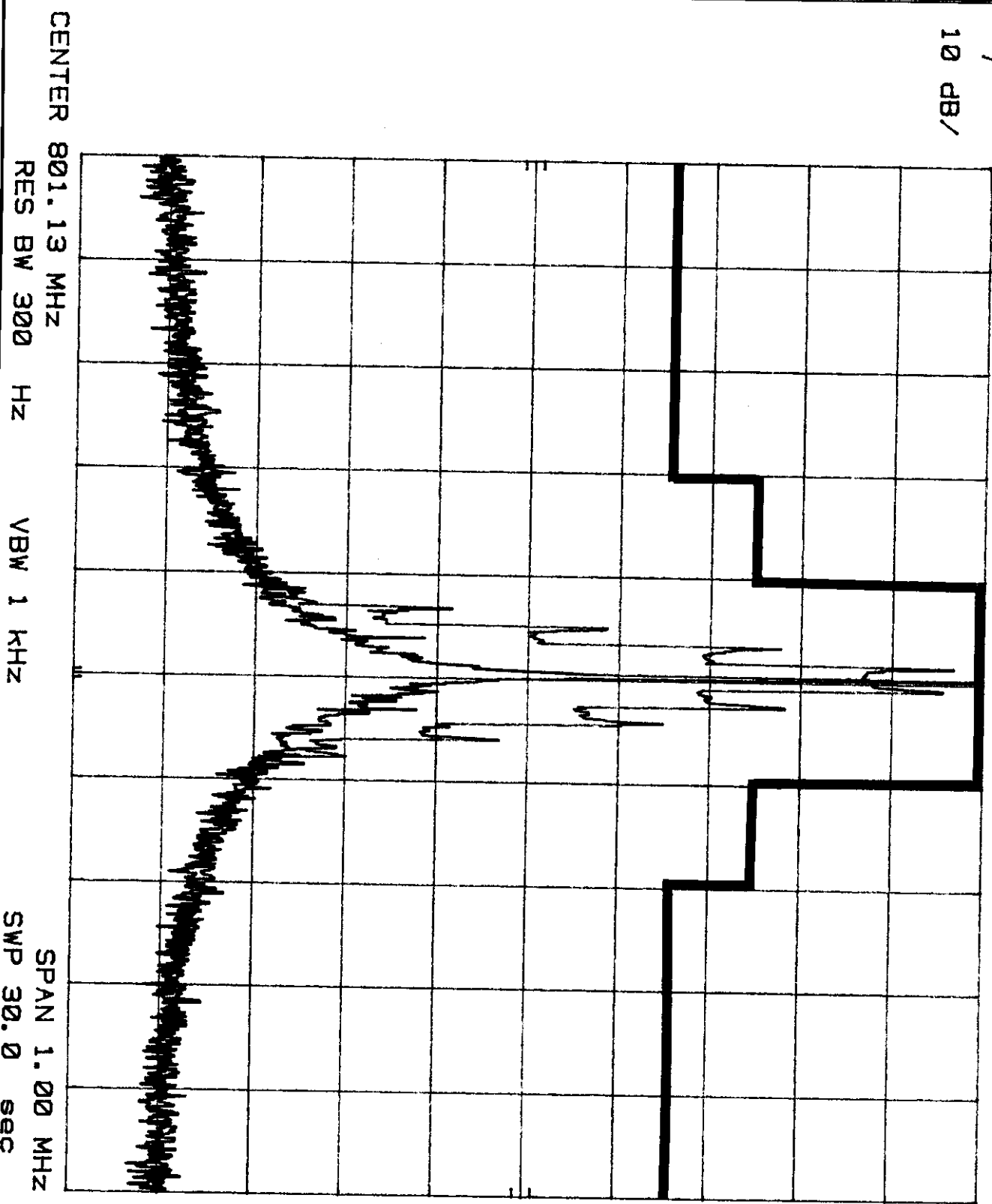
R-8034 SAMSON BELTPACK OCC BW 4/20/99 DC
 REF 95.6 DBμV ATTEN 10 DB
 hp

10 dB/



Retliff Testing Laboratories

Report No. R-8034-1



Date:	April 20, 1999
Notes:	
Test Method:	Occupied Bandwidth FCC 74.861(5)
Model No.:	T32M
Test Sample:	Wireless Beltpack Transmitter
Customer:	Samson Technologies
Tech:	Dennis Corles
Sheet:	4 of 6
Audio Input:	1000Hz @ 50% Modulation 7 dBm
Carrier Frequency:	805 MHz

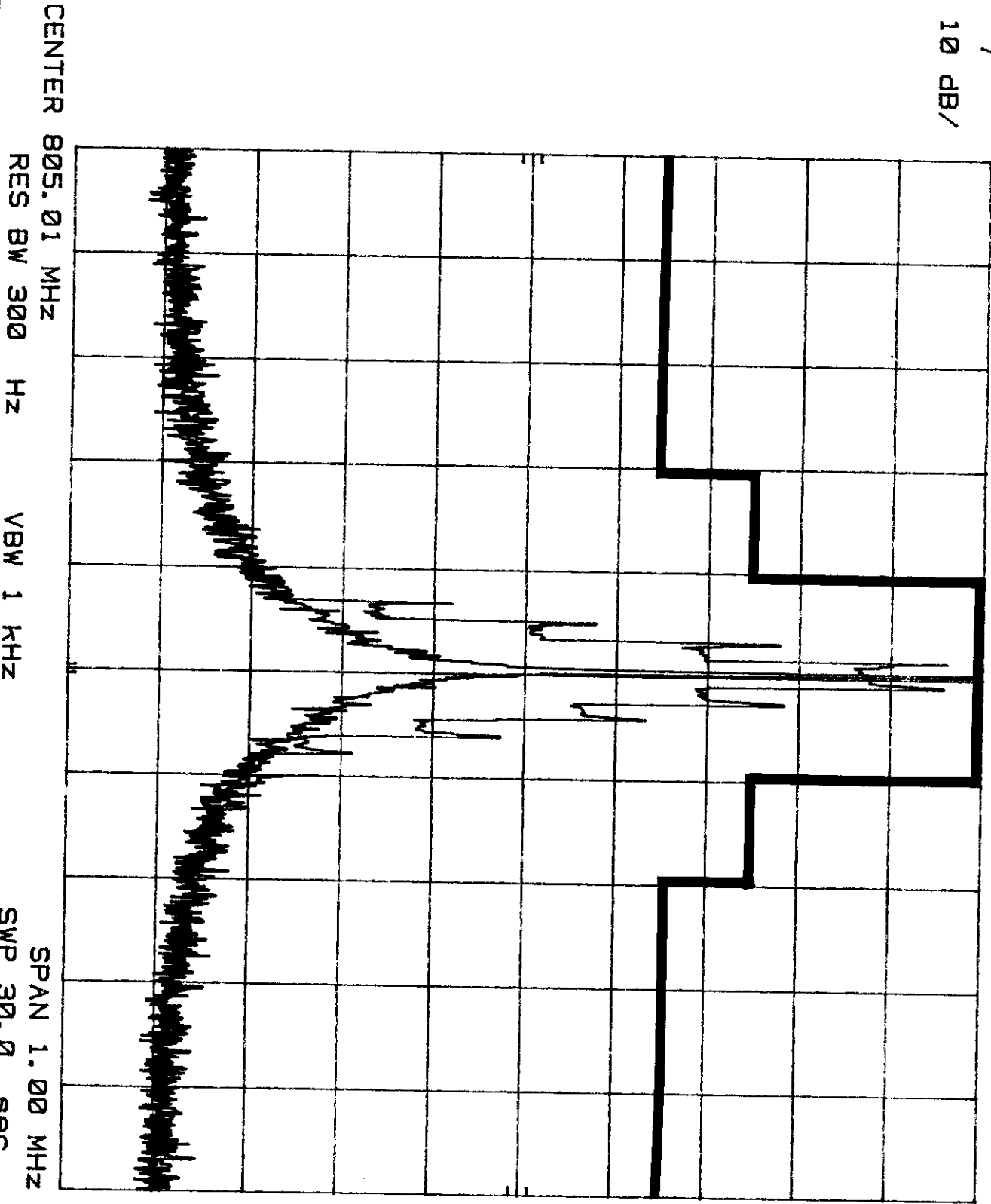


Report No. R-8034-1

Retliff Testing Laboratories

R-8034 SAMSON BELTPACK OCC BW 4/20/99 DC
 REF 94.0 DBμV ATTEN 10 DB

HP
 10 dB/



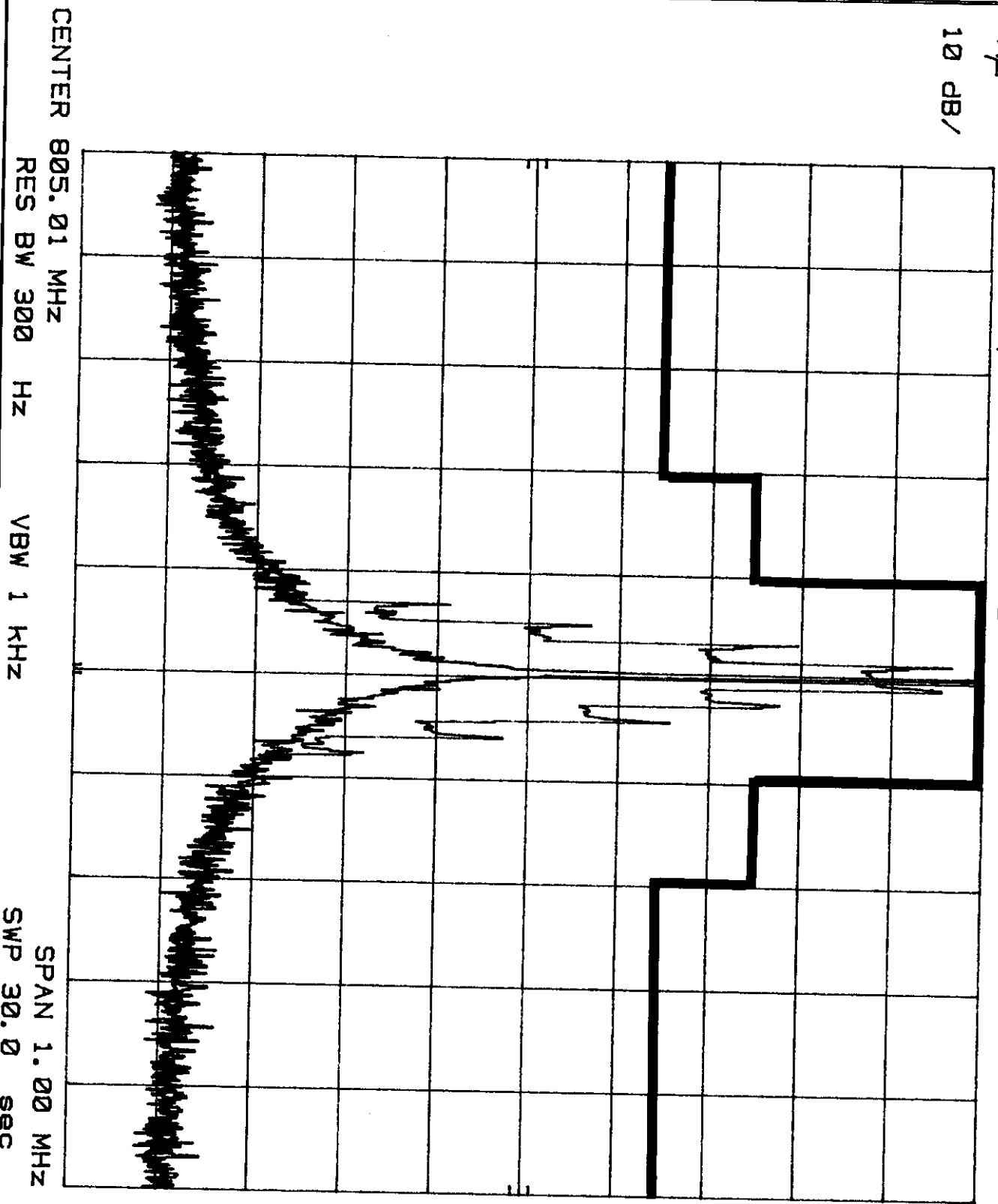
Date: April 20, 1999
 Tech: Dennis Cortes
 Sheet 5 of 6
 Audio Input: 2500Hz @ 50% Modulation -16dBm
 Carrier Frequency: 805 MHz
 Occupied Bandwidth FCC 74.861(5)
 T32M
 FCC ID: CCRT32M
 Wireless Bellpack Transmitter
 Samson Technologies
 Customer:
 Test Sample:
 Test Method:
 Model No:
 Notes:



Report No. R-8034-1

Relif Testing Laboratories

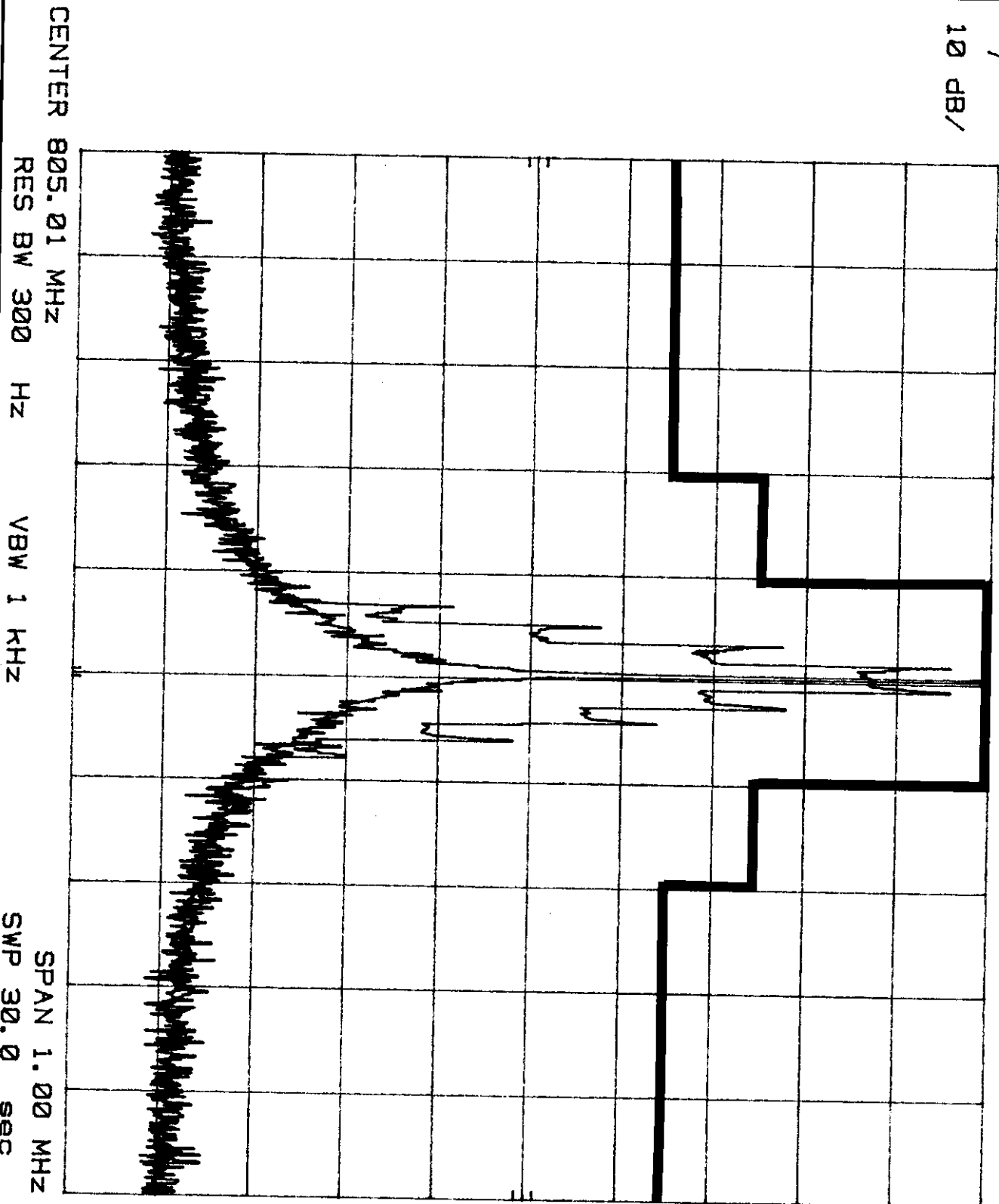
R-8034 SAMSON BELTPACK OCC BW 4/20/99 DC
 REF 94.0 DBμV ATTEN 10 DB
 hp
 10 DB/





Report No. R-8034-1

hpd
 10 DB/
 R-8034 SAMSON BELTPACK OCC BW 4/20/99 DC
 REF 94.0 DBμV ATTEN 10 DB



CENTER 805.01 MHz
 RES BW 300 Hz
 VBW 1 kHz
 SPAN 1.00 MHz
 SWP 30.0 sec



Retliff Testing Laboratories

Test Report Number R-8034-1
FCC ID: CCR132M

Field Strength of Spurious Radiation

Para. 2.993

EXHIBIT H

FIELD STRENGTH OF SPURIOUS RADIATION (PARA 2.993)

A.

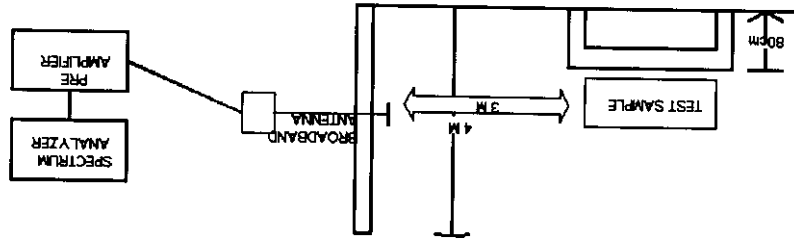
Measurement Procedure:

The test sample was then placed on an 80cm high wooden test stand which was located three meters from the test antenna on an FCC listed test site. The frequency range scanned was from the lowest frequency generated by the test sample to its tenth harmonic. In order to maximize the level of each emission observed from the test sample, the broadband antenna was tuned to the frequency of each emission and the test sample was rotated 360 degrees. To further maximize the each emission observed, the test antenna was both horizontally and vertically polarized, and then was raised and lowered from one to four meters from the ground plane. The limits for all of the spurious emissions was calculated utilizing the measured output power and the following equation:

$$\text{Limit (dB}\mu\text{V/M)} = 20 \log [\{ (49.2 \times P_T)^{1/3} \times 10^6 \} - (43 + 10 \log P_T)]$$

The above procedure was performed at the lower and upper frequencies of the device's operating frequency range.

Setup of the test is shown below:



B.

Test Results:

The results for the above test are shown on the following two (2) data sheets.



Retliff Job Number R-8034-1



Retliff Testing Laboratories

Test Method:	Spurious Emissions, Paragraph 2.993							
Customer:	Samson Technologies							
Test Sample:	Wireless Backpack Transmitter							
Model No.:	T32M							
Operating Mode	EUT continuously transmitting 801.125 Mhz signal							
Test Specification	FCC Part 74 Experimental Radio, Auxiliary, Special Broadcast and other Program							
Technician:		Dennis Cortes					Date:	April 27, 1999
Notes:		Test Distance: 3 Meters					Limit =	49.2 X Output Power ^D - (43+10 log Output Power)
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Limit	
Mhz	(V/H) / Degrees	Degrees	dBuv	dB	dBuv/m	uv/m	uv/m	
30.0							16596	
V								
1602.25	V-1.0	180	57.2	-4.1	53.1	451.9		
2403.37	V-1.1	293	55.9	-0.3	55.6	602.6		
3204.50	V-1.4	135	50.1	3.8	53.9	495.5		
4005.60	V-1.7	113	48.8	8.9	57.7	767.4		
9000.0	V						16596	

The EUT was scanned from 30 Mhz to 9 Ghz
 The emissions observed from the EUT do not exceed the specified limits.
 All emissions not observed were more than 20dB below the specified limit



Retliff Testing Laboratories

Retliff Job Number R-8034-1

Test Method: Spurious Emissions, Paragraph 2.993

Customer: Samson Technologies

Job No.: R-8034-1

Test Sample: Wireless Backpack Transmitter

FCC ID: CCRT32M

Model No.: T32M

Serial No.: N/A

Operating Mode: EUT continuously transmitting 805.0 Mhz signal

Test Specification: FCC Part 74 Experimental Radio, Auxiliary, Special Broadcast and other Program

Technician: Dennis Cortes

Date: April 27, 1999

Notes: Test Distance: 3 Meters

Detector: Peak
 Limit = $49.2 \times \text{Output Power}^{\frac{1}{2}}$ - (43+10 log Output Power) **D**

Test Freq. Mhz	Antenna Pol./Height (V/H) / Degrees	EUT Orientation	Meter Reading dBu	Correction Factor	Corrected Reading dBu/m	Converted Reading uv/m	Limit
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30.0	V						16596
1610.0	V-1.0	180	56.1	-4.1	52.0	398.1	
2415.0	V-1.5	000	54.1	-0.3	53.8	489.8	
3220.0	V-1.4	180	49.6	3.8	53.4	467.7	
9000.0	V						16596

The EUT was scanned from 30 Mhz to 9 Ghz

The emissions observed from the EUT do not exceed the specified limits.

All emissions not observed were more than 20dB below the specified limit

Test Report Number R-8034-1
FCC ID: CCRT32M



Retlif Testing Laboratories

Frequency Stability

Para. 2.995

EXHIBIT H

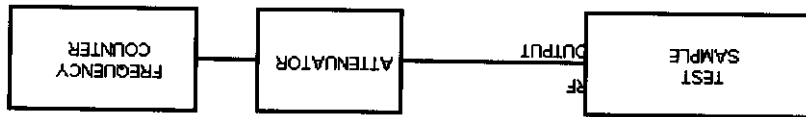
FREQUENCY STABILITY MEASUREMENTS (PARA 2.995)

A.

Measurement Procedure (Frequency vs. Voltage):

The RF output of the test sample was coupled to a frequency counter through external attenuation. Using a Variable power supply and voltmeter, the input voltage was varied. Measurements were taken with the device being supplied with 85, 100, 115 percent and at the battery endpoint of its rated input voltage and set to transmit the unmodulated carrier frequency.

Setup of the test is shown below:



B.

Test Results:

The results for the above test are shown of the following single data sheet.

Retliff Testing Laboratories



Test Report Number R-8034-1
FCC ID: CCRT32M

Retiff Job Number R-8034-1

Retiff Testing Laboratories



Transmit Frequency Mhz	Input Voltage %	Input Voltage VDC	Lower Limit Mhz	Meter Reading Mhz	Upper Limit Mhz
803.0	85	7.65	802.95985	803.0085	803.04015
803.0	100	9.0	802.95985	803.0083	803.04015
803.0	115	10.35	802.95985	803.0084	803.04015
803.0	*Low Batt	6.4	802.95985	803.0088	803.04015

Notes: Level adjustment set at maximum. * = At this point, the low battery voltage LED came on.

Test Method:	FREQUENCY STABILITY (INPUT POWER 85% TO 115%) Para 2.995
Customer:	Samson Technologies
Test Sample:	Wireless Backpack Transmitter
Model No.:	T32M
Operating Mode:	EUT continuously transmitting 803 Mhz signal
Test Specification:	FCC part 74; Experimental Radio, Auxiliary, Special broadcast and other program distribution services paragraph: 74.861(e)
Technician:	Dennis Cortes
Date:	April 18, 1999
Job No.:	R-8034-1
FCC ID:	CCRT32M
Serial No.:	N/A

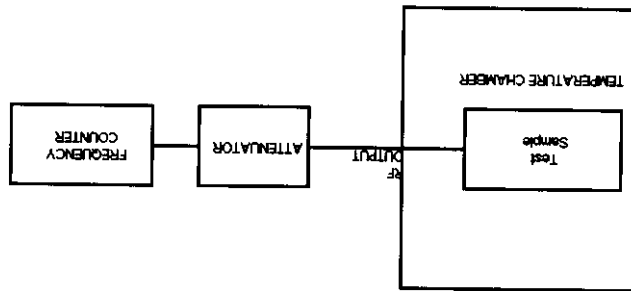
FREQUENCY STABILITY MEASUREMENTS (PARA 2.995)

A.

Measurement Procedure (Frequency vs. Temperature)

The RF output of the test sample was coupled to a frequency counter through external attenuators. With the counter connected, the test sample was activated and placed into a temperature chamber. The temperature was then programmed to start at -30 degrees Celsius and reach +50 degrees Celsius in 10 degrees increments. Each increment was held for 30 minutes in order to let the test sample stabilize at that temperature.

Setup of the test is shown below:



B.

Test Results:

The results for the above test are shown of the following single data sheet.





Retlif Testing Laboratories

Retlif Job Number R-8034-1

Transmit Frequency	Temp.	Lower Limit	Meter Reading	Upper Limit
Mhz	Degrees C	Mhz	Mhz	Mhz
803.0	-30	802.95985	802.9806	803.04015
803.0	-20	802.95985	802.9880	803.04015
803.0	-10	802.95985	802.9903	803.04015
803.0	0	802.95985	802.9946	803.04015
803.0	10	802.95985	803.0024	803.04015
803.0	20	802.95985	803.0050	803.04015
803.0	Room temp	802.95985	803.0077	803.04015
803.0	30	802.95985	802.9965	803.04015
803.0	40	802.95985	802.9965	803.04015
803.0	50	802.95985	802.9994	803.04015

Test Method: FREQUENCY STABILITY (-30 degrees C to +50 degrees C) Para 2.985

Customer: Samson Technologies

Test Sample: Wireless Backpack Transmitter

Model No.: T32M

Operating Mode: EUT continuously transmitting a 803 Mhz signal

Test Specification: FCC Part 74; Experimental radio, auxiliary, special broadcast and other program distributional services

Technician: Mark Stasiewicz

Notes: Level adjustment set at maximum.

Date: May 3, 1999

Job No.: R-8034-1

FCC ID: CCRTT32M

Serial No.: N/A

Test Report Number R-8034-1
FCC ID: CCRT32M

Retlif Testing Laboratories




TEST EQUIPMENT LIST

EQUIPMENT LIST

FCC Part 74

EN	Type	Manufacturer	Frequency Range	Model No.	Cal Date	Due Date
067	Open Area Test Site	Reliff	3 Meter	RNY	8/30/97	8/30/99
128C	Double Ridge Guide	Eaton Corporation	1 GHz - 18 GHz	96001	10/6/98	10/6/99
133	Broadband Pre-Amplifier	Electro-Metries	10 KHz - 1 GHz, 26dB	BPA-1000	6/22/98	6/22/99
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	3/16/99	9/16/99
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/5/99	3/5/00
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	3/16/99	9/16/99
159	Frequency Counter	Leader	10 Hz - 1 GHz	LDC-825	9/18/98	9/18/99
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/22/98	6/22/99
302	Temperature Chamber	Tenney Engineering	N/A	TJR	11/23/98	11/23/99
379D	H.P. Filter	Microfab/FXR	N/A	2GHz H.P Filter	6/17/98	6/17/99
413	Temp/Altitude Chamber	Thermotron	0 - 100,000 ft	F-4-CHA-1-1	1/18/99	1/18/00
419	Modulation Meter	Boonton Electronics	.01 - 1.2 GHz	82AD	4/30/99	4/30/00
451C	Tuned Dipole Antenna	Empire Devices	400 - 1000 MHz	DM-105-T3	8/1/97	8/1/00
488	HP Test Oscillator	Hewlett Packard	10 Hz - 10 MHz	654A	4/30/99	4/30/00
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/22/98	4/22/00
534	DC Power Supply	Lambda	N/A	DV-1827-2	5/11/98	5/11/99
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/3/98	9/3/99
544	EMC Analyzer	Hewlett Packard	9.0 KHz - 1.8 GHz	8591EM	8/6/98	8/6/99



Reliff Testing Laboratories

Test Report Number R-8034-1
FCC ID: CCR132M

Date: April 20, 1999
 Tech: Dennis Corley
 Sheet 1 of 6
 Notes:
 Test Method:
 Model No.: T32M
 Test Sample: Wireless Beltpack Transmitter
 Customer: Samson Technologies
 FCC ID: CCRT32M
 Occupied Bandwidth: FCC 74.861(5)
 Carrier Frequency: 801.125
 Audio Input: 1000Hz @ 50% Modulation 16dBm



Retlif Testing Laboratories
 Report No. R-8034-1

R-8034 SAMSON BELTPACK OCC BW 4/20/99 DC
 REF 95.6 DBμV ATTEN 10 DB
 hp
 10 dB/

