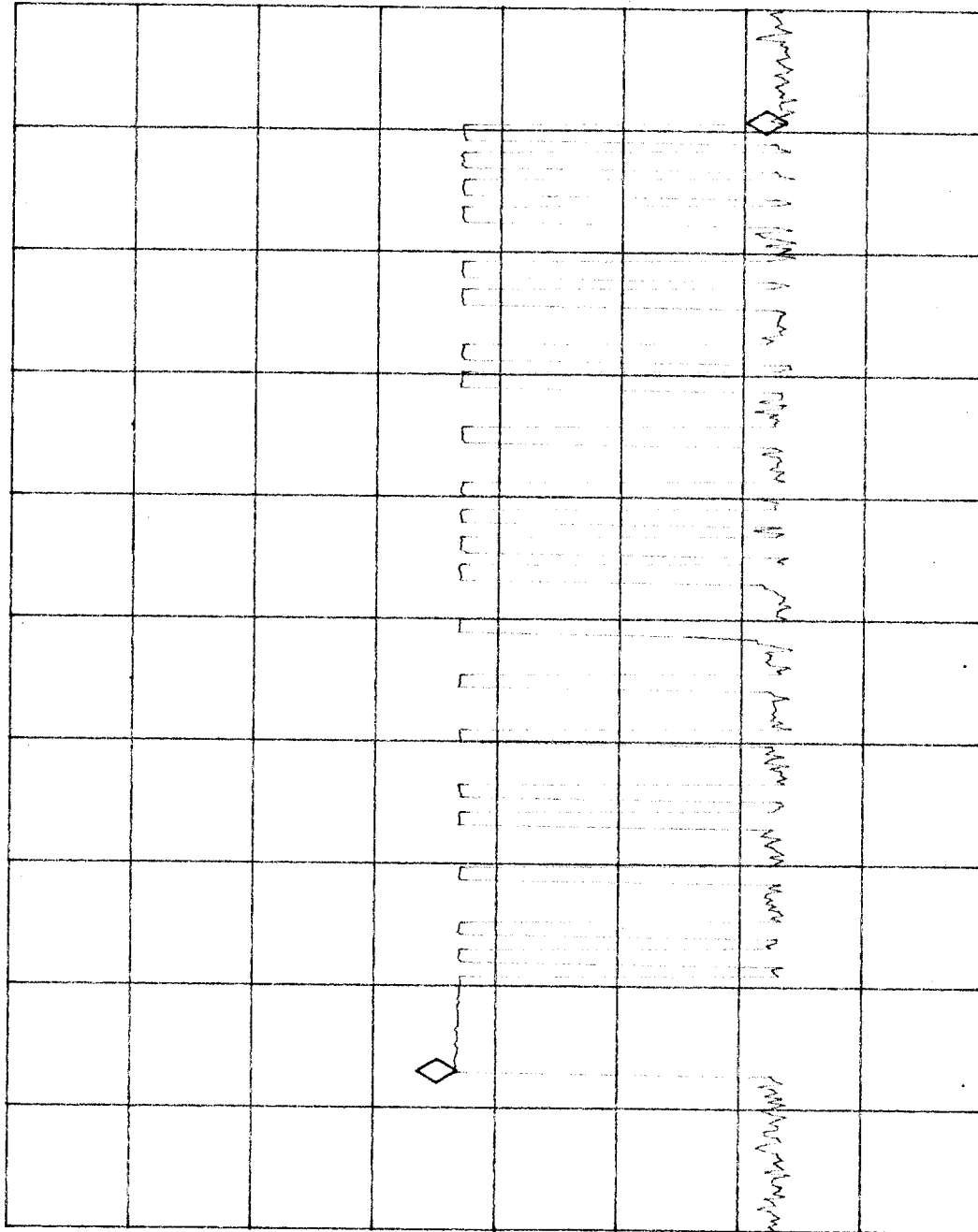


09:04:13 JAN 27, 2003
 R-9755-2 X-10 UR89A DUTY CYCLE JK MKR 38.875 msec
 REF 97.0 dBμV #AT 0 dB -26.55 dB



VA SB
 SC FS
 CORR

CENTER 310.000 MHz SPAN 0 Hz
 #RES BW 3.0 MHz #VBW 3 MHz #SWP 50.0 msec

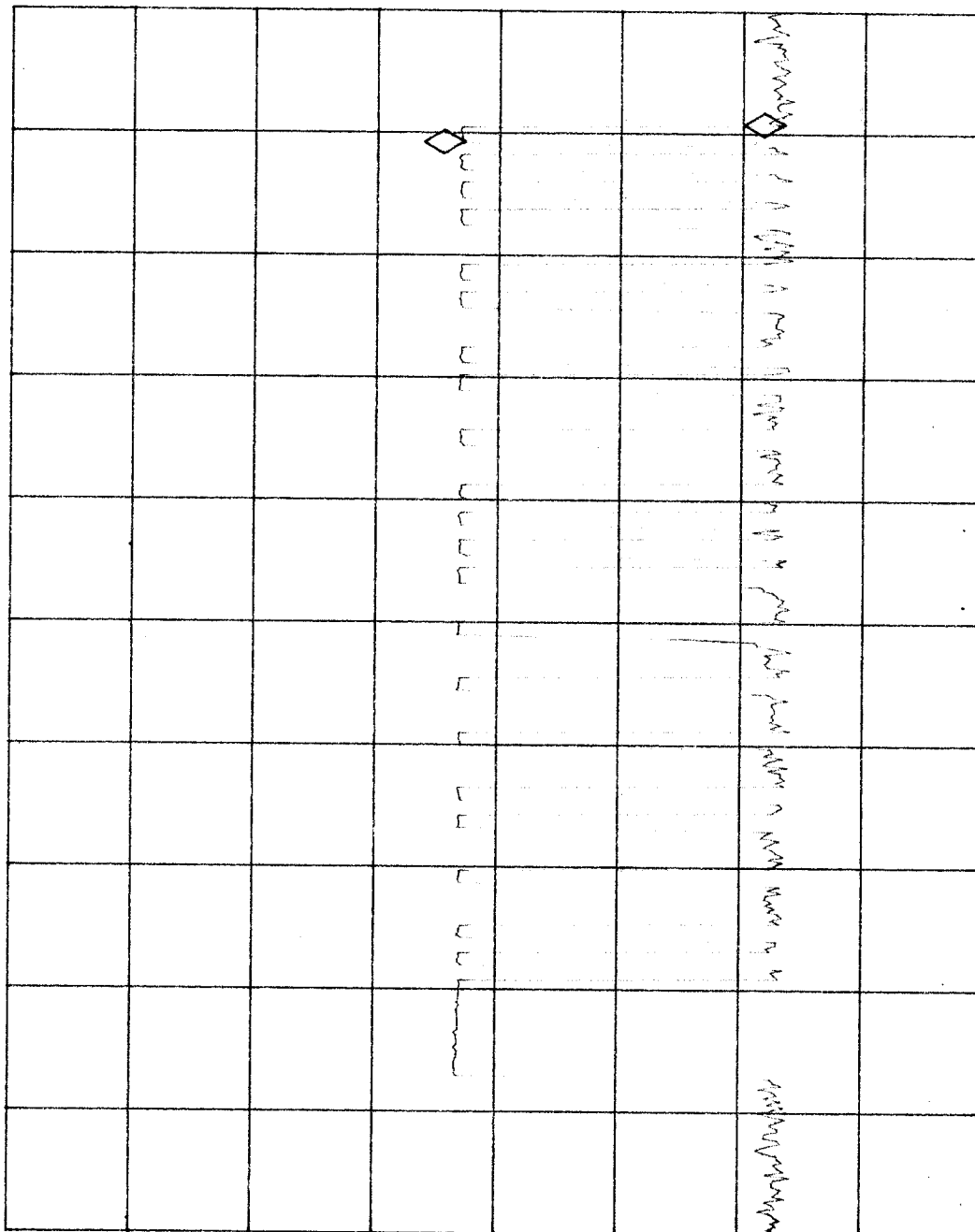
Customer	X-10
Test Sample	Pulsed RF 310 MHz Transmitter
Model No.	UR89A FCC ID:B4SUR89A
Test Method	Duty Cycle Determination
Notes	Measurement of Pulse Period = 38.875 msec
Date	01-27-03
Tech	J. Kabacinski
Sheet	1 of 1



Retlif Testing Laboratories

Report No. 9755-1

08:49:35 JAN 27, 2003
 R-9755-2 X-10 UR89A DUTY CYCLE JK MKR 750.00 μ sec
 REF 97.0 dB μ V #AT 0 dB -26.29 dB



PEAK
 LOG
 10
 dB/

VA SB
 SC FS
 CORR

CENTER 310.000 MHz
 #RES BW 3.0 MHz
 #VBW 3 MHz
 #SWP 50.0 msec
 SPAN 0 Hz

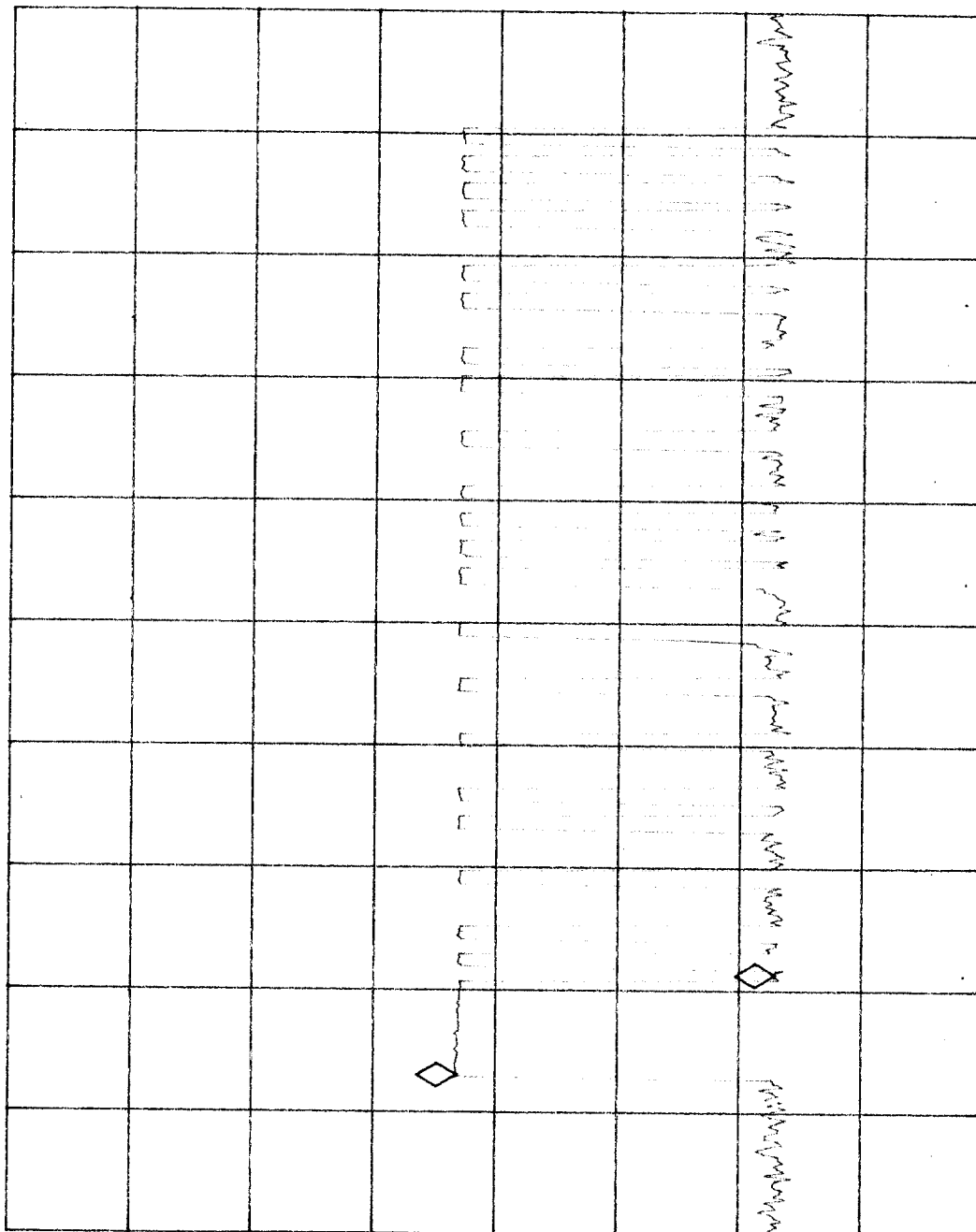
Customer	X-10
Test Sample	Pulsed RF 310 MHz Transmitter
Model No.	UR89A FCC ID: B4SUR89A
Test Method	Duty Cycle Determination
Notes	Measurement of Small Pulse = 750 usec
Date	01-27-03
Tech	J. Kabacinski
Sheet	1 of 1



Retlif Testing Laboratories

Report No. 9755-1

08:54:49 JAN 27, 2003
 R-9755-2 X-10 UR89A DUTY CYCLE JK MKR 4.1250 msec
 REF 97.0 dBμV #AT 0 dB -26.10 dB



PEAK
 LOG
 10
 dB/

VA SB
 SC FS
 CORR

CENTER 310.000 MHz SPAN 0 Hz
 #RES BW 3.0 MHz #SWP 50.0 msec
 #VBW 3 MHz

Customer:	X-10
Test Sample:	Pulsed RF 310 MHz Transmitter
Model No.:	UR89A FCC ID:B4SUR89A
Test Method:	Duty Cycle Determination
Notes:	Measurement of Large Pulse = 4.125 msec
Date:	01-27-03
Tech:	J. Kabacinski
Sheet:	1 of 1



Retlif Testing Laboratories

Report No. 9755-1

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10			Job No.	R-9755-1		
Test Sample:	X-10 Handheld Pulsed 310MHz Transmitter			Paragraph:	15.231(a)		
Model No.:	UR89A			FCC ID:	B4SUR89A		
Operating Mode:	Continuously Transmitting a Pulsed 310 MHz Signal						
Technician:	J. Kabacinski			Date:	1-24-03		
Notes:	Test Distance: 3 Meters Detector: Peak, Unless otherwise specified						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)/Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
310	H / 1.0	X	69.2	-3.7	65.5	1885	58330
	H / 1.0	Y	72.6		68.9	2786	
	H / 1.0	Z	68.6		64.9	1758	
	V / 1.5	X	66.2		62.5	1340	
	V / 1.5	Y	60.3		56.6	676	
310	V / 1.5	Z	70.3	-3.7	66.6	2133	58330
620	H / 1.0	X	45.1	4.2	49.3	292	5833
	H / 1.0	Y	41.7		45.9	197	
	H / 1.0	Z	41.2		45.4	186	
	V / 1.0	X	40.3		44.5	168	
	V / 1.0	Y	42.0		46.2	204	
620	V / 1.5	Z	40.1	4.2	44.3	164	5833
930	H /	X	25.0	9.2	34.2	*51.3	5833
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
930	V /	Z	25.0	9.2	34.2	*51.3	5833
1240	H /	X	40.4	-1.2	39.2	*91.2	5000
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
1240	V /	Z	40.4	-1.2	39.2	*91.2	5000
1550	H /	X	40.5	2.9	37.6	*76.0	5000
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
1550	V /	Z	40.5	2.9	37.6	*76.0	5000
The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not recorded were more							
Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.							
*=Noise Floor Measurements (Minimum system sensitivity)							



Retlif Testing Laboratories

Retlif Job Number R-9755-1

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10			Job No.	R-9755-1		
Test Sample:	X-10 Handheld Pulsed 310MHz Transmitter			Paragraph:	15.231(a)		
Model No.:	UR89A			FCC ID:	B4SUR89A		
Operating Mode:	Continuously Transmitting a Pulsed 310 MHz Signal						
Technician:	J. Kabacinski			Date:	1-24-03		
Notes:	Test Distance: 3 Meters Detector: Peak, unless otherwise specified						
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	uV/m
1860	H /	X	41.3	5.1	36.2	*65.0	5833
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
1860	V /	Z	41.3	5.1	36.2	*65.0	5833
2170	H /	X	40.9	1.8	39.1	*90.0	5833
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
2170	V /	Z	40.9	1.8	39.1	*90.0	5833
2480	H /	X	40.3	3.6	36.7	*68.0	5833
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
2480	V /	Z	40.3	3.6	36.7	*68.0	5833
2790	H /	X	40.4	6.2	34.2	*51.0	5000
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
2790	V /	Z	40.4	6.2	34.2	*51.0	5000
3100	H /	X	40.5	6.7	33.8	*49.0	5833
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
3100	V /	Z	40.5	6.7	33.8	*49.0	5833
The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not recorded were more Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits. *=Noise Floor Measurements (Minimum system sensitivity)							



Retlif Testing Laboratories

Retlif Job Number R-9755-1

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10			Job No.	R-9755-1		
Test Sample:	X-10 Handheld Pulsed 310MHz Transmitter			Paragraph:	15.231(a)		
Model No.:	UR89A			FCC ID:	B4SUR89A		
Operating Mode:	Continuously Transmitting a Pulsed 310 MHz Signal						
Technician:	J. Kabacinski			Date:	1-24-03		
Notes:	Test Distance: 3 Meters			Duty Cycle: 51.13 %			
	Detector: Peak, unless otherwise specified			Duty Cycle Correction: - 5.83 dB			
Test Freq.	Antenna Pol./Height	EUT Orientation	Peak Reading	Correction Factor	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	UV/m
310	H /	X	65.5	- 5.83	59.7	966	5833
	H /	Y	68.9		63.1	1429	
	H /	Z	64.9		59.1	902	
	V /	X	62.5		56.7	684	
	V /	Y	56.6		50.8	347	
310	V /	Z	66.6		60.8	1097	5833
620	H /	X	49.3		43.5	150	583
	H /	Y	45.9		40.1	101	
	H /	Z	45.4		39.6	96	
	V /	X	44.5		38.7	86	
	V /	Y	46.2		40.4	105	
620	V /	Z	44.3		38.5	84	583
930	H /	X	34.2		28.4	*26.0	583
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
930	V /	Z	34.2		28.4	*26.0	583
1240	H /	X	39.2		33.4	*46.8	500
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
1240	V /	Z	39.2		33.4	*46.8	500
1550	H /	X	37.6		31.8	*38.9	500
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
1550	V /	Z	37.6	- 5.83	31.8	*38.9	500
The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not recorded were more Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.							
*=Noise Floor Measurements (Minimum system sensitivity)							



Retlif Testing Laboratories

Retlif Job Number R-9755-1

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	X-10			Job No.	R-9755-1		
Test Sample:	X-10 Handheld Pulsed 310MHz Transmitter			Paragraph:	15.231(a)		
Model No.:	UR89A			FCC ID:	B4SUR89A		
Operating Mode:	Continuously Transmitting a Pulsed 310 MHz Signal						
Technician:	J. Kabacinski			Date:	1-24-03		
Notes:	Test Distance: 3 Meters			Duty Cycle: 51.13 %			
	Detector: Peak, unless otherwise specified			Duty Cycle Correction: - 5.83 dB			
Test Freq.	Antenna Pol./Height	EUT Orientation	Peak Reading	Correction Factor	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	UV/m
1860	H /	X	41.3	- 5.83	35.5	*60.0	583
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
1860	V /	Z	41.3		35.5	60.0	583
2170	H /	X	40.9		35.1	*57.0	583
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
2170	V /	Z	40.9		35.1	*57.0	583
2480	H /	X	40.3		34.5	*53.0	583
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
2480	V /	Z	40.3		34.5	*53.0	583
2790	H /	X	40.4		34.6	*54.0	500
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
2790	V /	Z	40.4		34.6	*54.0	500
3100	H /	X	40.5		34.7	*54.3	583
	H /	Y					
	H /	Z					
	V /	X					
	V /	Y					
3100	V /	Z	40.5	- 5.83	34.7	*54.3	583
The frequency range was scanned from 30 MHz to 3.1 GHz. All emissions not recorded were more							
Than 10 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.							
*=Noise Floor Measurements (Minimum system sensitivity)							



Retlif Testing Laboratories

Retlif Job Number R-9755-1



R-9755-1 X-10 UR89A OCC BW JK 01-28-03
 REF 62.2 dBμV ATTN 0 dB
 MKR Δ 56.5 kHz
 0.60 dB

h7p
 10 dB/



SPAN 774 kHz
 SWP 30.0 msec

VBW 30 kHz

CENTER 309.808 MHz
 RES BW 10 kHz

Customer: X-10
 Test Sample: Pulsed RF 310 MHz Transmitter
 Model No.: UR89A FCC ID: B45UR89A
 Test Method: FCC 15.231(c) Occupied Bandwidth
 Notes: EUT meets 20dBc requirement at 0.25% of center frequency (775kHz)

Date: 01-28-03 Tech: J. Kabacinski Sheet: 1 of 1



Retlif Testing Laboratories

Report No. 9755-1