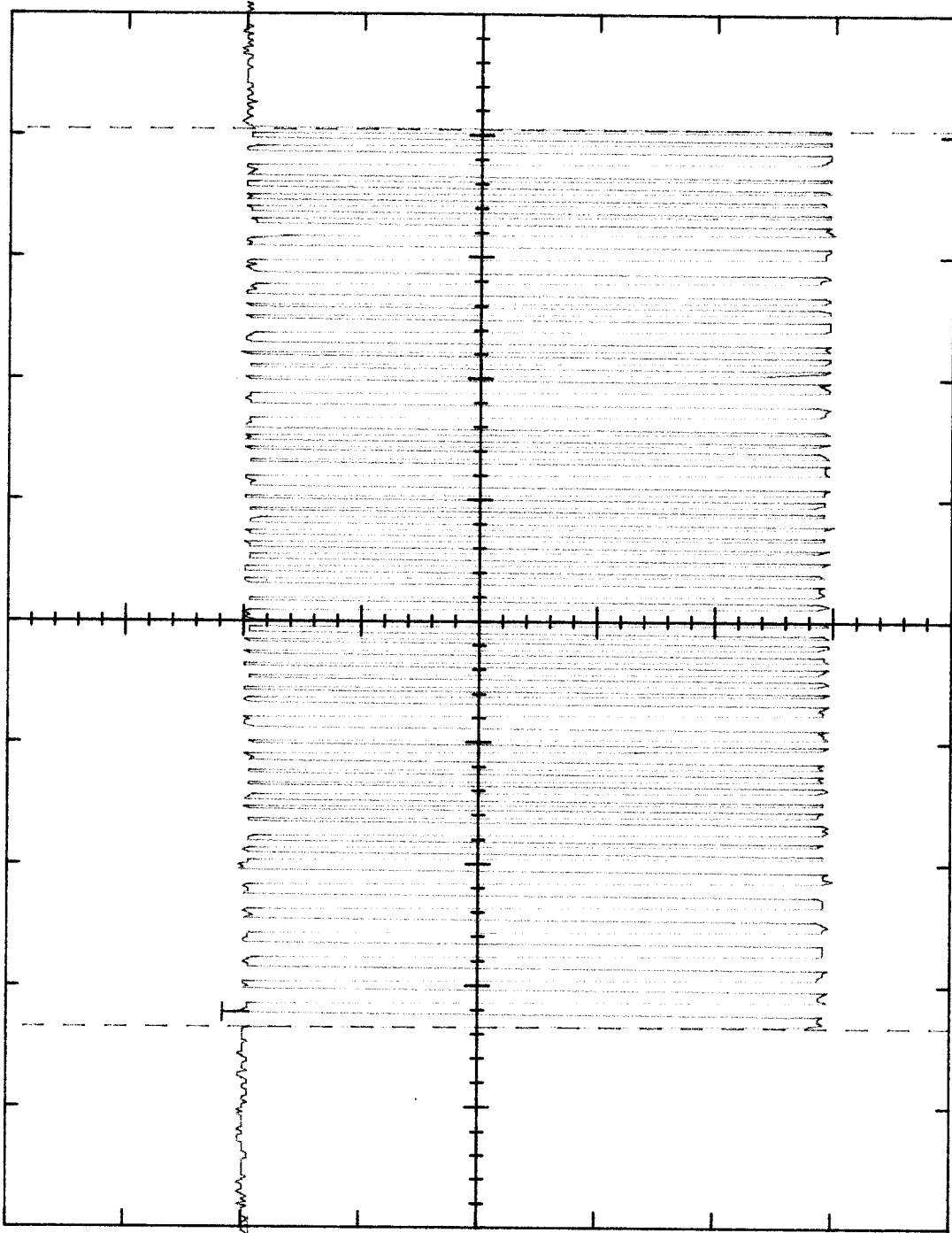


CH1 20mV A 2ms -5.63mV VERT

14.800ms



Customer:	Detection Systems
Test Sample:	304.1MHz Pulsed Transmitter
Model No.:	SE3403 FCC ID. :ESV-0407-7
Test Method:	FCC 15.35 Duty Cycle Determination
Notes:	16 large pulses and 39 small pulses in a 14.8millisecond pulse burst.
Date:	Oct. 3, 2002
Tech:	Peter Lananna
Sheet:	1 of 4

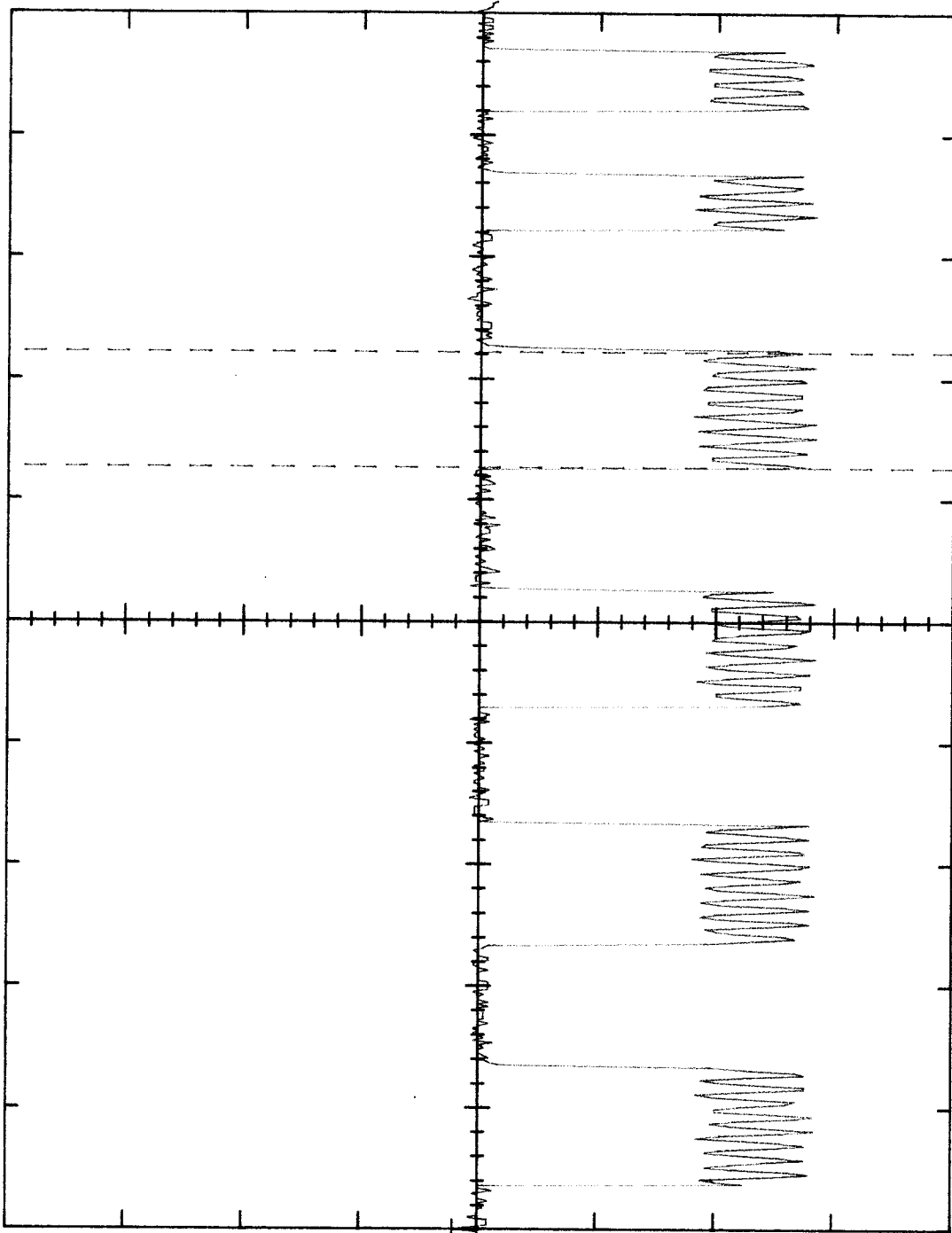


Retlif Testing Laboratories

Report No. R-9647-1

CHI 2mV Ω 200 μ s -1.50mV VERT

190.00 μ s



Customer: Detection Systems
Test Sample: 304.1MHz Pulsed Transmitter
Model No.: SE3403 FCC ID: ;ESV-0407-7
Test Method: FCC 15.35 Duty Cycle Determination
Notes: Large Pulse = 190microseconds
16 large pulses * 190 μ s = 3milliseconds

Date: Oct. 3, 2002 Tech: Peter Lananna Sheet 2 of 4

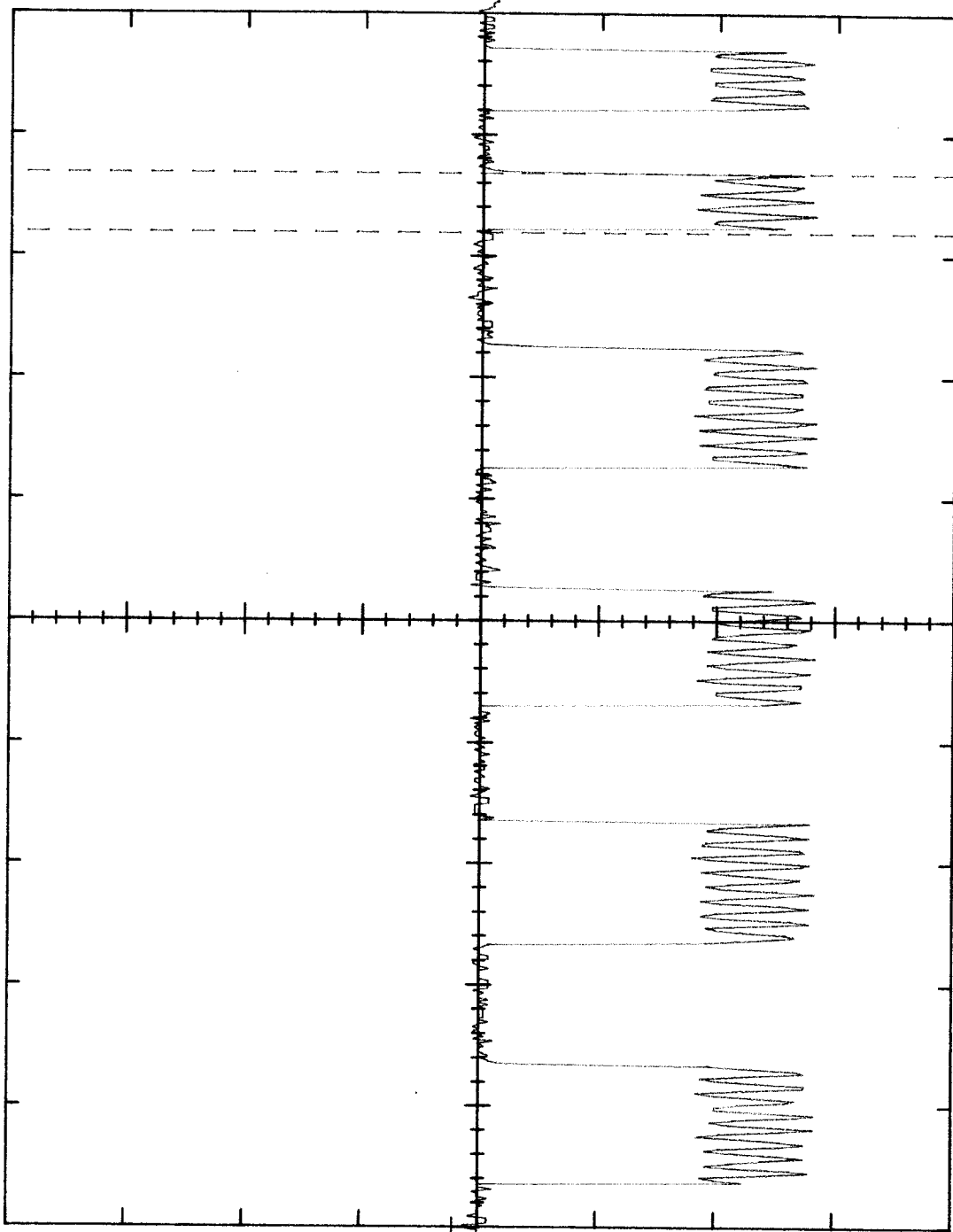


Retlif Testing Laboratories

Report No. R-9647-1

CH1 2mVΩ 200μs -1.50mV VERT

98.000μs



Customer: Detection Systems
Test Sample: 304.1MHz Pulsed Transmitter
Model No.: SE3403 FCC ID.:ESV-0407-7
Test Method: FCC 15.35 Duty Cycle Determination
Notes: Small Pulse = 98microseconds
39 small pulses * 98μs = 3.8milliseconds

Date: Oct. 3, 2002 Tech: Peter Lananna Sheet 3 of 4



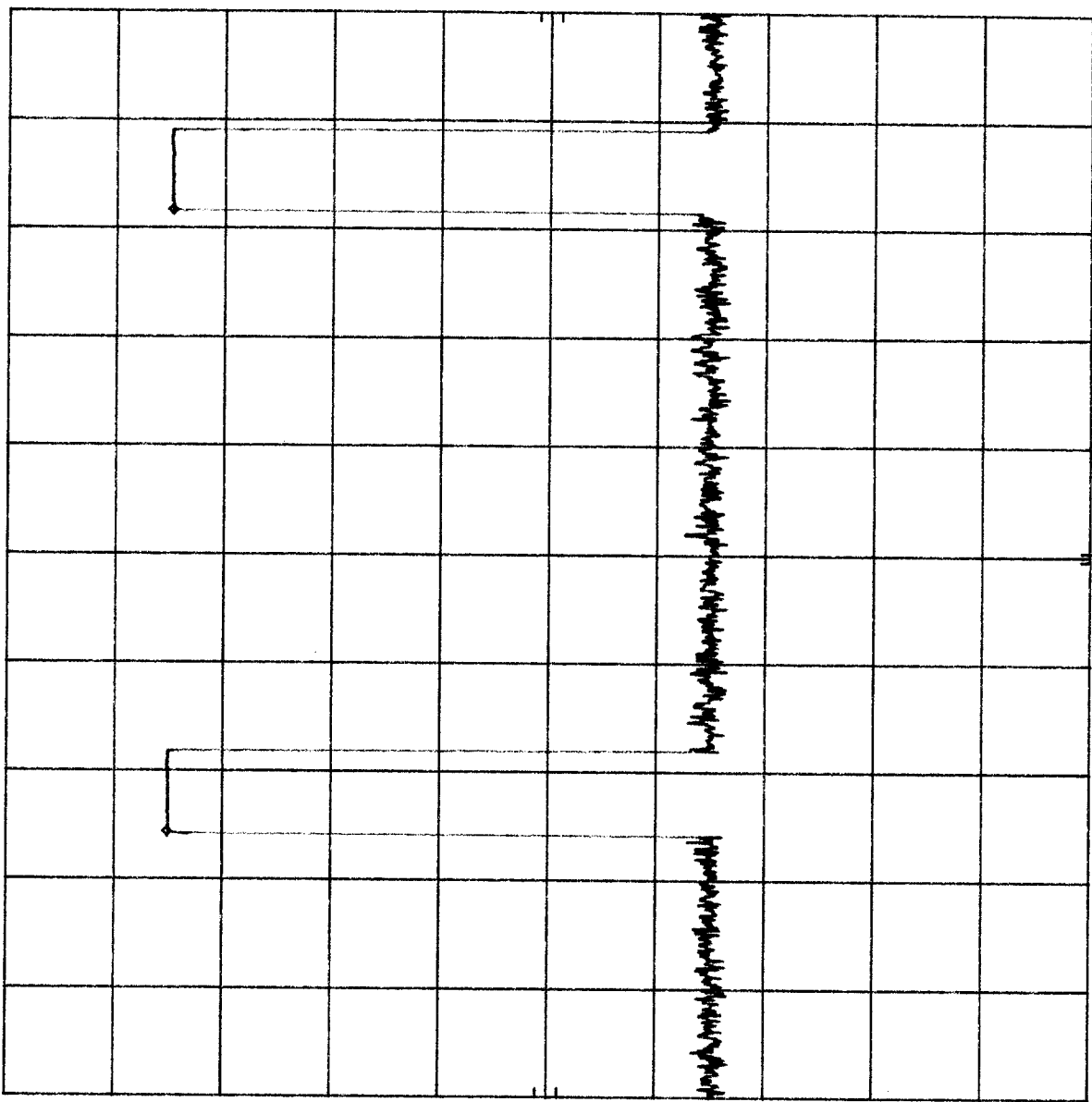
Retlif Testing Laboratories

Report No. R-9647-1

R-9647 Bosch SE3403 DCD 10/3/02 PL
 MKR Δ 114.6 msec
 REF 92.4 dBμV ATTEN 0 dB
 -0.30 dB

hp

10 dB/



CENTER 304.058 914 MHz
 RES BW 1 MHz
 VBW 3 MHz
 SWP 200 msec
 SPAN 0 Hz

Customer:	Detection Systems
Test Sample:	304.1MHz Pulsed Transmitter
Model No.:	SE3403 FCC ID. :ESV-0407-7
Test Method:	FCC 15.35 Duty Cycle Determination
Notes:	Cycle Time = 114.6milliseconds (39 * 98μs) + (16 * 190μs) = 6.8millisecond Worst Case Transmitter On Time 6.8ms / 100 = 6.8%, 20log(0.068) = -23.3dB Duty Cycle Correction Factor
Date:	Oct. 3, 2002
Tech:	Peter Lananna
Sheet	4 of 4



Retlif Testing Laboratories

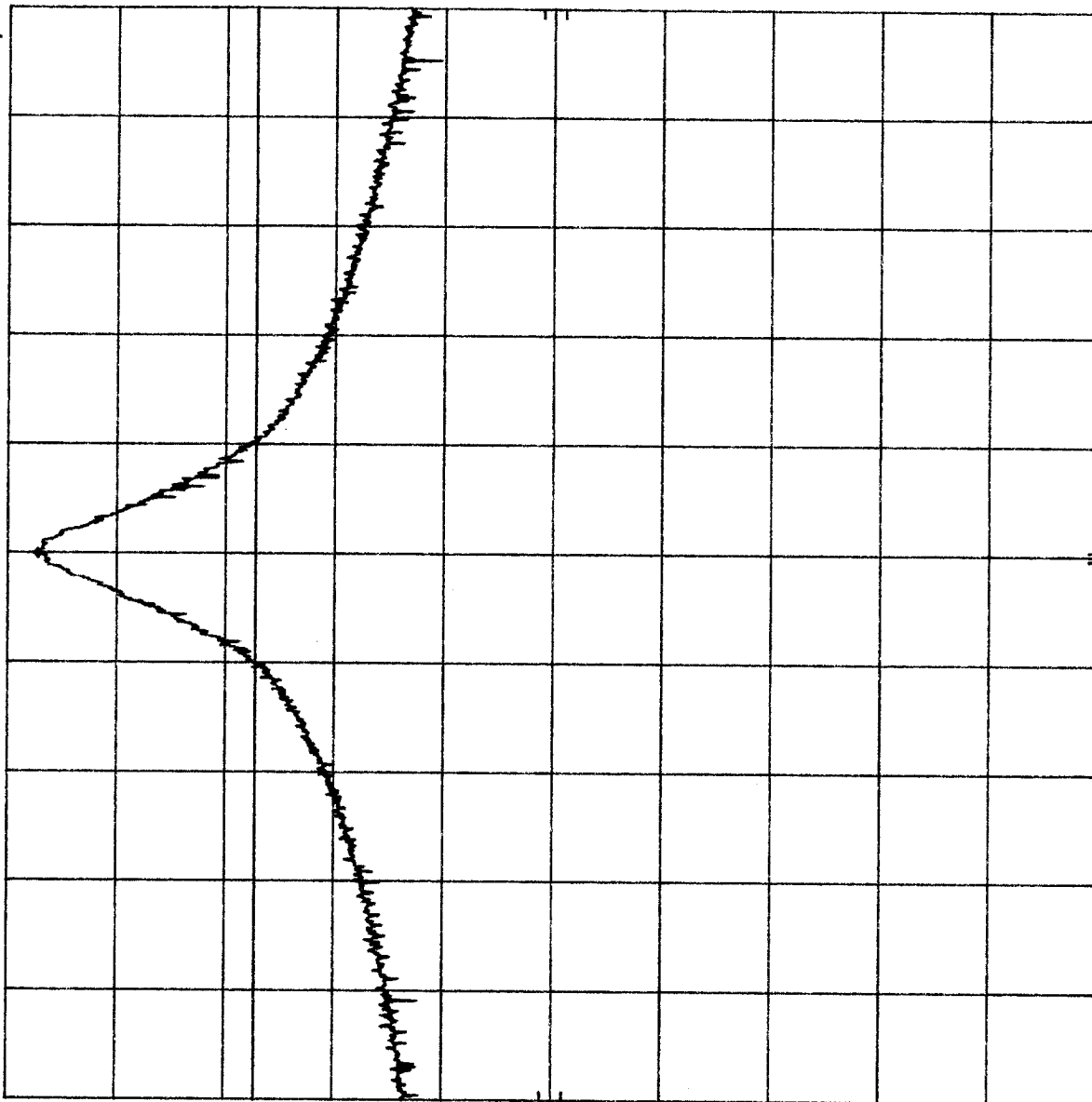
Report No. R-9647-1

R-9647 Bosch SE3403 Occ. Bw. 10/3/02 PL MKR 304.058 1 MHz
 REF 92.4 dB μ V ATTEN 0 dB

hp

10 dB/

DL
 69.6
 dB μ V



CENTER 304.058 MHz
 RES BW 30 kHz
 VBW 100 kHz
 SWP 20.0 msec
 SPAN 760 kHz

Customer:	Detection Systems
Test Sample:	304.1MHz Pulsed Transmitter
Model No.:	SE3403 FCC ID. :ESV-0407-7
Test Method:	FCC 15.231(c) Occupied Bandwidth
Notes:	Emission of center frequency is less than 0.25% of the fundamental frequency. $304.1\text{MHz} * 0.25\% = 760.25\text{kHz}$
Date:	Oct. 3, 2002
Tech:	Peter Lananna
Sheet:	1 of 1



Retlif Testing Laboratories

Report No. R-9647-1

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	Detection Systems			Job No.	R-9647-1		
Test Sample:	304.1MHz Pulsed Transmitter			Paragraph:	15.231		
Model No.:	SE3403			FCC ID:	ESV-0407-7		
Operating Mode:	Continuously transmitting a 304.1MHz signal						
Technician:	Peter Lananna			Date:	October 16, 2002		
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
3041.1	H / 1.0	X	64.3	17.9	82.2	12882.5	55900
	H / 1.0	Y	72.3	17.9	90.2	32359.4	
	H / 1.0	Z	73.4	17.9	91.3	36728.2	
	V / 1.5	X	70.0	17.9	87.9	24831.3	
	V / 2.0	Y	62.0	17.9	79.9	9885.5	
304.1	V / 1.8	Z	63.9	17.9	81.8	12302.7	55900
608.2	H / 1.0	X	47.9	4.9	52.8	436.5	5000
	H / 1.3	Y	58.0	4.9	62.9	1396.4	
	H / 2.8	Z	53.0	4.9	57.9	785.2	
	V / 2.0	X	61.8	4.9	66.7	2162.7	
	V / 1.0	Y	57.0	4.9	61.9	1244.5	
608.2	V / 3.0	Z	53.1	4.9	58.0	794.3	5000
912.3	H / 2.0	X	56.2	10.3	66.5	2113.5	5590
	H / 1.3	Y	52.3	10.3	62.6	1349.0	
	H / 2.3	Z	56.4	10.3	66.7	2162.7	
	V / 1.0	X	61.4	10.3	71.7	3845.9	
	V / 1.5	Y	55.7	10.3	66.0	1995.3	
912.3	V / 1.0	Z	60.5	10.3	70.8	3467.4	5590
1216.4	H / 2.0	X	51.2	-0.1	51.1	358.9	5000
	H / 1.0	Y	62.3	-0.1	62.2	1288.2	
	H / 1.0	Z	68.9	-0.1	68.8	2754.2	
	V / 1.3	X	57.0	-0.1	56.9	699.8	
	V / 2.0	Y	51.6	-0.1	51.5	375.8	
1216.4	V / 1.3	Z	56.1	-0.1	56.0	631.0	5000
1520.5	H / 1.5	X	64.9	3.6	68.5	2660.7	5000
	H / 1.3	Y	63.0	3.6	66.6	2138.0	
	H / 1.0	Z	67.8	3.6	71.4	3715.4	
	V / 2.0	X	64.1	3.6	67.7	2426.6	
	V / 2.0	Y	64.3	3.6	67.9	2483.1	
1520.5	V / 1.3	Z	64.5	3.6	68.1	2541.0	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-9647-1

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions		
Customer:	Detection Systems	Job No.:	R-9647-1
Test Sample:	304.1MHz Pulsed Transmitter	Paragraph:	15.231
Model No.:	SE3403	FCC ID:	ESV-0407-7
Operating Mode:	Continuously transmitting a 304.1MHz signal		
Technician:	Peter Lananna	Date:	October 16, 2002

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
1824.6	H / 1.5	X	63.2	5.2	68.4	2630.3	5590
	H / 2.3	Y	63.5	5.2	68.7	2722.7	
	H / 1.5	Z	65.0	5.2	70.2	3235.9	
	V / 1.0	X	63.2	5.2	68.4	2630.3	
	V / 1.5	Y	61.4	5.2	66.6	2138.0	
1824.6	V / 1.8	Z	60.4	5.2	65.6	1905.5	5590
2128.7	H / 2.3	X	53.8	1.1	54.9	555.9	5590
	H / 1.3	Y	55.5	1.1	56.6	676.1	
	H / 1.8	Z	58.0	1.1	59.1	901.6	
	V / 1.0	X	57.3	1.1	58.4	831.8	
	V / 1.3	Y	56.1	1.1	57.2	724.4	
2128.7	V / 1.5	Z	55.5	1.1	56.6	676.1	5590
2432.8	H / 2.3	X	52.9	3.2	56.1	638.3	5590
	H / 2.0	Y	56.7	3.2	59.9	988.6	
	H / 2.0	Z	54.7	3.2	57.9	785.2	
	V / 1.0	X	55.8	3.2	59.0	891.3	
	V / 1.0	Y	54.4	3.2	57.6	758.6	
2432.8	V / 1.5	Z	53.2	3.2	56.4	660.7	5590
2736.9	H / 1.0	X	40.6	6.1	46.7	216.3*	5000
	H / 1.0	Y	40.6	6.1	46.7	216.3*	
	H / 1.0	Z	40.6	6.1	46.7	216.3*	
	V / 1.0	X	40.6	6.1	46.7	216.3*	
	V / 1.0	Y	40.6	6.1	46.7	216.3*	
2736.9	V / 1.0	Z	40.6	6.1	46.7	216.3*	5000
3041.0	H / 1.0	X	41.0	6.4	47.4	234.4*	5590
	H / 1.0	Y	41.0	6.4	47.4	234.4*	
	H / 1.0	Z	41.0	6.4	47.4	234.4*	
	V / 1.0	X	41.0	6.4	47.4	234.4*	
	V / 1.0	Y	41.0	6.4	47.4	234.4*	
3041.0	V / 1.0	Z	41.0	6.4	47.4	234.4*	5590

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-9647-1

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	Detection Systems			Job No.	R-9647-1		
Test Sample:	304.1MHz Pulsed Transmitter			Paragraph:	15.231		
Model No.:	SE3403			FCC ID:	ESV-0407-7		
Operating Mode:	Continuously transmitting a 304.1MHz signal						
Technician:	Peter Lananna			Date:	October 16, 2002		
Notes:	Test Distance: 3 Meters			Duty Cycle: 6.8%			
	Detector: Peak, unless otherwise specified			Duty Cycle Correction: - 23.3 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
3041.1	H / 1.0	X	82.2	-23.3	58.9	881.0	5590
	H / 1.0	Y	90.2	-23.3	66.9	2213.1	
	H / 1.0	Z	91.3	-23.3	68.0	2511.9	
	V / 1.5	X	87.9	-23.3	64.6	1698.2	
	V / 2.0	Y	79.9	-23.3	56.6	676.1	
304.1	V / 1.8	Z	81.8	-23.3	58.5	841.4	5590
608.2	H / 1.0	X	52.8	-23.3	29.5	29.9	500
	H / 1.3	Y	62.9	-23.3	39.6	95.5	
	H / 2.8	Z	57.9	-23.3	34.6	53.7	
	V / 2.0	X	66.7	-23.3	43.4	147.9	
	V / 1.0	Y	61.9	-23.3	38.6	85.1	
608.2	V / 3.0	Z	58.0	-23.3	34.7	54.3	500
912.3	H / 2.0	X	66.5	-23.3	43.2	144.5	559
	H / 1.3	Y	62.6	-23.3	39.3	92.3	
	H / 2.3	Z	66.7	-23.3	43.4	147.9	
	V / 1.0	X	71.7	-23.3	48.4	263.0	
	V / 1.5	Y	66.0	-23.3	42.7	136.5	
912.3	V / 1.0	Z	70.8	-23.3	47.5	237.1	559
1216.4	H / 2.0	X	51.1	-23.3	27.8	24.5	500
	H / 1.0	Y	62.2	-23.3	38.9	88.1	
	H / 1.0	Z	68.8	-23.3	45.5	188.4	
	V / 1.3	X	56.9	-23.3	33.6	47.9	
	V / 2.0	Y	51.5	-23.3	28.2	25.7	
1216.4	V / 1.3	Z	56.0	-23.3	32.7	43.2	500
1520.5	H / 1.5	X	68.5	-23.3	45.2	182.0	500
	H / 1.3	Y	66.6	-23.3	43.3	146.2	
	H / 1.0	Z	71.4	-23.3	48.1	254.1	
	V / 2.0	X	67.7	-23.3	44.4	166.0	
	V / 2.0	Y	67.9	-23.3	44.6	169.8	
1520.5	V / 1.3	Z	68.1	-23.3	44.8	173.8	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-9647-1

Test Method:	FCC Part 15 Subpart C Radiated Emissions, Fundamental & Harmonic Emissions						
Customer:	Detection Systems			Job No.:	R-9647-1		
Test Sample:	304.1MHz Pulsed Transmitter			Paragraph:	15.231		
Model No.:	SE3403			FCC ID:	ESV-0407-7		
Operating Mode:	Continuously transmitting a 304.1MHz signal						
Technician:	Peter Lananna			Date:	October 16, 2002		
Notes:	Test Distance: 3 Meters			Duty Cycle: 6.8%			
	Detector: Peak, unless otherwise specified			Duty Cycle Correction: -23.3 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
1824.6	H / 1.5	X	68.4	-23.3	45.1	179.9	559
	H / 2.3	Y	68.7	-23.3	45.4	186.2	
	H / 1.5	Z	70.2	-23.3	46.9	221.3	
	V / 1.0	X	68.4	-23.3	45.1	179.9	
	V / 1.5	Y	66.6	-23.3	43.3	146.2	
1824.6	V / 1.8	Z	65.6	-23.3	42.3	130.3	559
2128.7	H / 2.3	X	54.9	-23.3	31.6	38.0	559
	H / 1.3	Y	56.6	-23.3	33.3	46.2	
	H / 1.8	Z	59.1	-23.3	35.8	61.7	
	V / 1.0	X	58.4	-23.3	35.1	56.9	
	V / 1.3	Y	57.2	-23.3	33.9	49.5	
2128.7	V / 1.5	Z	56.6	-23.3	33.3	46.2	559
2432.8	H / 2.3	X	56.1	-23.3	32.8	43.7	559
	H / 2.0	Y	59.9	-23.3	36.6	67.6	
	H / 2.0	Z	57.9	-23.3	34.6	53.7	
	V / 1.0	X	59.0	-23.3	35.7	61.0	
	V / 1.0	Y	57.6	-23.3	34.3	51.9	
2432.8	V / 1.5	Z	56.4	-23.3	33.1	45.2	559
2736.9	H / 1.0	X	46.7	-23.3	23.4	14.8*	500
	H / 1.0	Y	46.7	-23.3	23.4	14.8*	
	H / 1.0	Z	46.7	-23.3	23.4	14.8*	
	V / 1.0	X	46.7	-23.3	23.4	14.8*	
	V / 1.0	Y	46.7	-23.3	23.4	14.8*	
2736.9	V / 1.0	Z	46.7	-23.3	23.4	14.8*	500
3041.0	H / 1.0	X	47.4	-23.3	24.1	16.0*	559
	H / 1.0	Y	47.4	-23.3	24.1	16.0*	
	H / 1.0	Z	47.4	-23.3	24.1	16.0*	
	V / 1.0	X	47.4	-23.3	24.1	16.0*	
	V / 1.0	Y	47.4	-23.3	24.1	16.0*	
3041.0	V / 1.0	Z	47.4	-23.3	24.1	16.0*	559
The frequency range was scanned from 30 MHz to 3.1GHz. 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-9647-1

Test Method:	FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.209(a)		
Customer:	Detection Systems	Job No.	R-9647-1
Test Sample:	304.1MHz Pulsed Transmitter	FCC ID.:	ESV-0407-7
Model No.:	SE3403	Serial No.	000989736
Operating Mode:	Continuously transmitting a 304.1MHz signal.		
Technician:	Peter Lananna	Date:	October 16, 2002

Notes: Test Distance: 3 Meters Temp:14C Humidity: 99%
 Detector: Quasi-Peak Below 30 MHz to 1 GHz, Peak above 1 GHz

Test Freq.	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	LIMIT
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30.00							100
88.00							100
88.00							150

No emissions detected at specified test distance.

216.00							150
216.00							200
960.00							200
960.00							500
3100.0							500

The EUT was scanned from 30 MHz to 3.1 GHz

The emissions observed from the EUT do not exceed the specified limits. Emissions not recorded were more than 10dB under the specified limit



Retlif Testing Laboratories

Retlif Job Number R-9647-1