Elite Electronic Engineering, Inc.
1516 Center Circle
Downers Grove, IL 60515

Attn: Mr. Richard King

Richard:

Enclosed you will find a Part 15 Certification Application for a Digi-Star 900MHz Transceiver, FCC ID: PMPRF900. Certification is requested to the requirements of Part 15, Subpart C, Section 15.249 of the Commission's rules. This application is being filed by Retlif Testing Laboratories on behalf of Digi-Star.

I trust that you will find the enclosed application to be complete; however, should you have any questions or require any additional information, please feel free to contact us.

Very truly yours,

RETLIF TESTING LABORATORIES

Scott Wentworth
Manager

Enc. (as stated)

APPLICANT	MANUFACTURER
Digi-Star LLC 790 West Rockwell Avenue Fort Atkinson, WI 53538	SAME

TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C, Para. 15.249

TEST PROCEDURE: ANSI C63.4:1992

TEST SAMPLE DESCRIPTION

BRANDNAME: Digi-Star MODEL: RF900

TYPE: RF Transceiver (Receiver Verified)

POWER REQUIREMENTS: 12VDC via Remote Data Display Unit

ANTENNA: Copper Plated Wire (permanently attached)

FREQUENCY BAND OF OPERATION: 902MHz to 928MHz

TRANSMIT FREQUENCIES: 903MHz to918MHz (16 Discrete Channels)

TESTED FREQUENCIES: 903MHz, 911MHz and 918MHz

MODULATION: Pulsed (On/Off Keying)

TYPE OF TRANSMISSION: Data (Load & Weight Information)

EUT CABLE CONFIGURATIONS: (1) 8 Meter Multiconductor Shielded Cable to Rotary Channel Selector Switch
(1) 8 Meter Multiconductor Shielded Cable to Remote Display Unit

SUPPORT EQUIPMENT: Digi-Star Model EZ-3200 Remote Data Display Unit

FCC ID: PMPRF900

RULE SECTION: Part 15, Subpart C, Section 15.249, Operation in the 902 to 928MHz Band

TESTS PERFORMED

Spurious Emissions 30MHz - 9200MHz (3 transmit frequencies)

Field Strength of Fundamental (3 transmit frequencies)

TEST SAMPLE OPERATION

The RF900 Wireless Remote System will be used in the agricultural industry to provide wireless data transfer (load/weight info) between the loader and feedtruck during the loading process. Both the loader and feedtruck will have a RF900 transceiver mounted on the top of the cab so that the loader operator can obtain load/weight information from the truck being loaded. For testing purposes only the EUT was configured to continuously transmit.

TEST SAMPLE / TEST PROGRAM

- The fundamental field strengths at 903MHz, 911MHz and 918MHz did not exceed 50mV/M at a test distance of 3 meters.
- The field strength of harmonic emissions did not exceed 500µV/M. No harmonic emissions were observed within 20dB of the specified limit at 3 meter or 1 meter test distances..
- The field strength of non-harmonic out of band emissions were attenuated more than 50dB below the level of the fundamental or to the limits of 15.209 as applicable. No out of band spurious emissions were observed within 20dB of the specified limit at 3 meter or 1 meter test distances.
- Radiated Emissions from the EUT were measured in all three axis. Worst case emissions were found with the EUT in the vertical upright position. This orientation is also the position in which the device will normally be installed. The attached Radiated Emissions test data is representative of this worst case orientation.

SPECTRUM ANALYZER

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements.

GENERAL NOTES

1. All readings were taken utilizing a peak detector function at a test distance of 3 meters.
2. The frequency range was scanned from 30MHz to 9200MHz for spurious emissions.

EQUIPMENT LISTS

Field Strength of Fundamental

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
4202	Biconilog	EMCO	26 MHz - 2 GHz	3142	7/10/00	7/10/01
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESI26	3/9/00	5/9/01

Spurious Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
3116	Pre-Amplifier	Miteq	0.1 GHz - 18 GHz	AFS42-35	11/7/00	11/7/01
3258	Double Ridge Guide	EMCO	1 - 18 GHz	3115	5/6/00	5/6/01
4202	Biconilog	EMCO	26 MHz - 2 GHz	3142	7/10/00	7/10/01
713	EMI Test Receiver	Rohde & Schwarz	20 Hz - 26.5 GHz	ESI26	3/9/00	5/9/01

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	**Field Strength of Fundamental**		
Customer:	Digistar Corporation	**Job No:**	R-3777N1
Test Sample:	RF Transceiver		
Model No:	RF900	**Serial No:**	n/a
Test Specification:	FCC Part 15 Paragraph: 15.249		
Operating Mode:	Continuously Transmitting		
Technician:	T. Firkowski	**Date:**	4/19/01
Notes:	Peak readings at 3 meters		

Transmit Frequency	Antenna/EUT Position	Meter Reading	Site Correction	Corrected Readings	Converted Reading					Limit @ 3 meters
MHz	Polarization/Axis	dBuV	dB	dBuV/m	uV/m					uV/m
902.99	V/X	53.97	34.93	88.90	27861.21					50000.00
911.00	V/X	53.35	34.93	88.28	25941.79					50000.00
918.05	V/X	54.08	35.00	89.08	28444.61					50000.00

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Spurious Emissions 30MHz to 9200MHz		
Customer:	Digistar Corporation	**Job No:**	R-3777N1
Test Sample:	RF Transceiver		
Model No:	RF900	**Serial No:**	n/a
Test Specification:	FCC Part 15 Paragraph: 15.249		
Operating Mode:	Continuously Transmitting		
Technician:	T. Firkowski	**Date:**	4/19/01
Notes:	Peak readings at 3 meters Fundamental Frequency: 902.99 MHz		

Test Frequency	Antenna Position	Turntable Position	Meter Reading	Correction Factor	Corrected Reading				Converted Reading	Limit at 3 Meters
MHz	(H/V) - Height	Degrees	dBuV	dB	dBuV/m				uV/m	uVm
30.00	-	-	-	-	-				-	100.00
I	-	-	-	-	-				-	I
88.00	-	-	-	-	-				-	100.00
88.00	-	-	-	-	-				-	150.00
I	-	-	-	-	-				-	I
216.00	-	-	-	-	-				-	150.00
216.00	-	-	-	-	-				-	200.00
I	-	-	-	-	-				-	I
960.00	-	-	-	-	-				-	200.00
960.00	-	-	-	-	-				-	500.00
I	-	-	-	-	-				-	I
9200.00	-	-	-	-	-				-	500.00

No EUT spurious emissions were observed within 20dB of the specified limit throughout the given frequency spectrum

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Spurious Emissions 30MHz to 9200MHz		
Customer:	Digistar Corporation	**Job No:**	R-3777N1
Test Sample:	RF Transceiver		
Model No:	RF900	**Serial No:**	n/a
Test Specification:	FCC Part 15 Paragraph: 15.249		
Operating Mode:	Continuously Transmitting		
Technician:	T. Firkowski	**Date:**	4/19/01
Notes:	Peak readings at 3 meters Fundamental Frequency: 911.00 MHz		

Test Frequency	Antenna Position	Turntable Position	Meter Reading	Correction Factor	Corrected Reading				Converted Reading	Limit at 3 Meters
MHz	(H/V) - Height	Degrees	dBuV	dB	dBuV/m				uV/m	uVm
30.00	-	-	-	-	-				-	100.00
I	-	-	-	-	-				-	I
88.00	-	-	-	-	-				-	100.00
88.00	-	-	-	-	-				-	150.00
I	-	-	-	-	-				-	I
216.00	-	-	-	-	-				-	150.00
216.00	-	-	-	-	-				-	200.00
I	-	-	-	-	-				-	I
960.00	-	-	-	-	-				-	200.00
960.00	-	-	-	-	-				-	500.00
I	-	-	-	-	-				-	I
9200.00	-	-	-	-	-				-	500.00

No EUT spurious emissions were observed within 20dB of the specified limit throughout the given frequency spectrum

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Spurious Emissions 30MHz to 9200MHz		
Customer:	Digistar Corporation	**Job No:**	R-3777N1
Test Sample:	RF Transceiver		
Model No:	RF900	**Serial No:**	n/a
Test Specification:	FCC Part 15 Paragraph: 15.249		
Operating Mode:	Continuously Transmitting		
Technician:	T. Firkowski	**Date:**	4/19/01
Notes:	Peak readings at 3 meters Fundamental Frequency: 918.05 MHz		

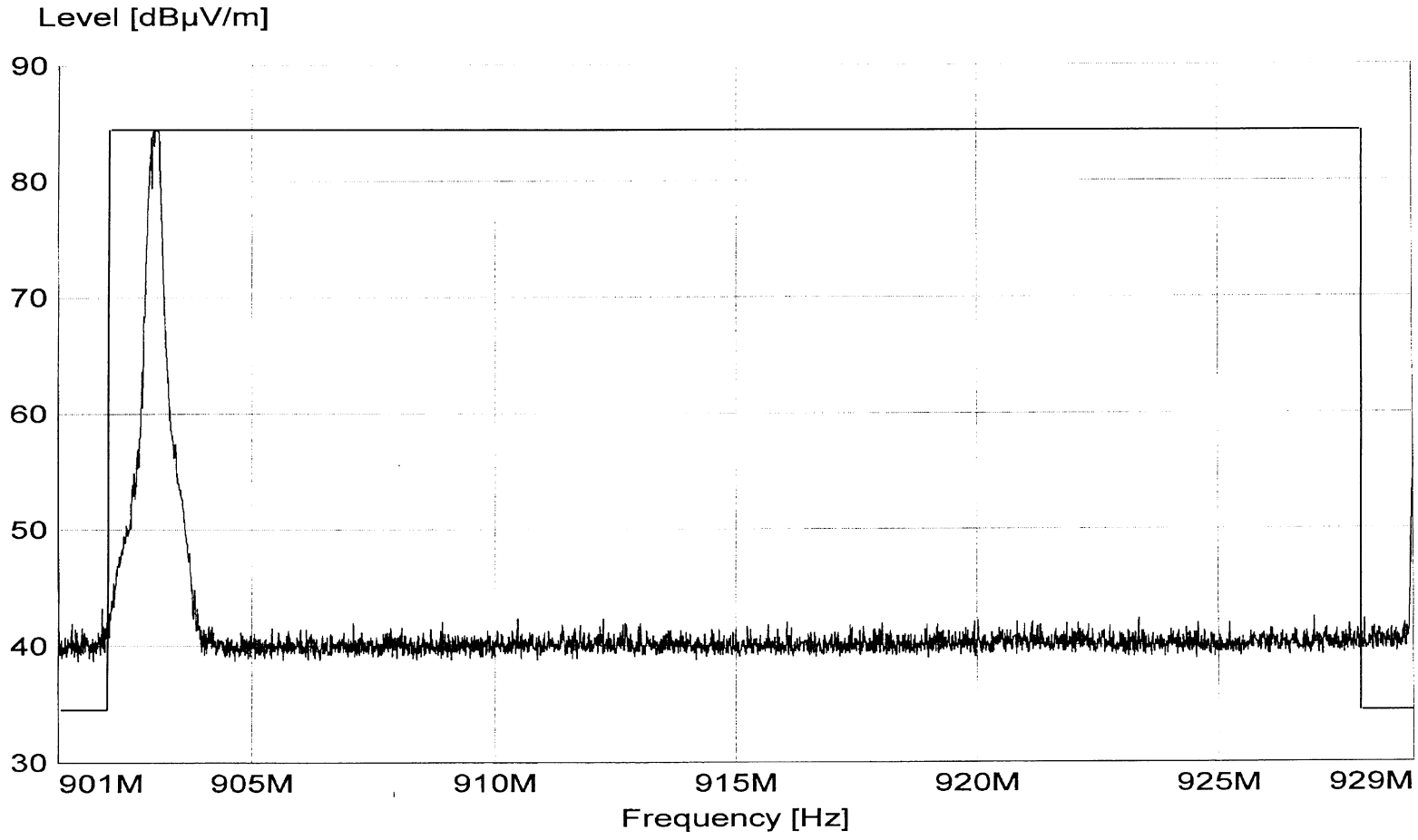
Test Frequency	Antenna Position	Turntable Position	Meter Reading	Correction Factor	Corrected Reading				Converted Reading	Limit at 3 Meters
MHz	(H/V) - Height	Degrees	dBuV	dB	dBuV/m				uV/m	uVm
30.00	-	-	-	-	-				-	100.00
I	-	-	-	-	-				-	I
88.00	-	-	-	-	-				-	100.00
88.00	-	-	-	-	-				-	150.00
I	-	-	-	-	-				-	I
216.00	-	-	-	-	-				-	150.00
216.00	-	-	-	-	-				-	200.00
I	-	-	-	-	-				-	I
960.00	-	-	-	-	-				-	200.00
960.00	-	-	-	-	-				-	500.00
I	-	-	-	-	-				-	I
9200.00	-	-	-	-	-				-	500.00

No EUT spurious emissions were observed within 20dB of the specified limit throughout the given frequency spectrum

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Band Edge Plots 902 MHz to 928 MHz				
Customer:	Digistar Corporation	Test Sample:	RF Transceiver	Job No:	R-3777N1
Model No:	RF900	Serial No:	n/a	Technician:	T. Firkowski
Test Specification:	FCC Part 15 Subpart C	Paragraph: 15.249		Date:	9/27/01
Operating Mode:	Continuously Transmitting				
Notes:	Transmit Frequency: 903 MHz RBW: 100kHz, VBW: 300kHz See Tabular Data Sheet for 15.209 Compliance				



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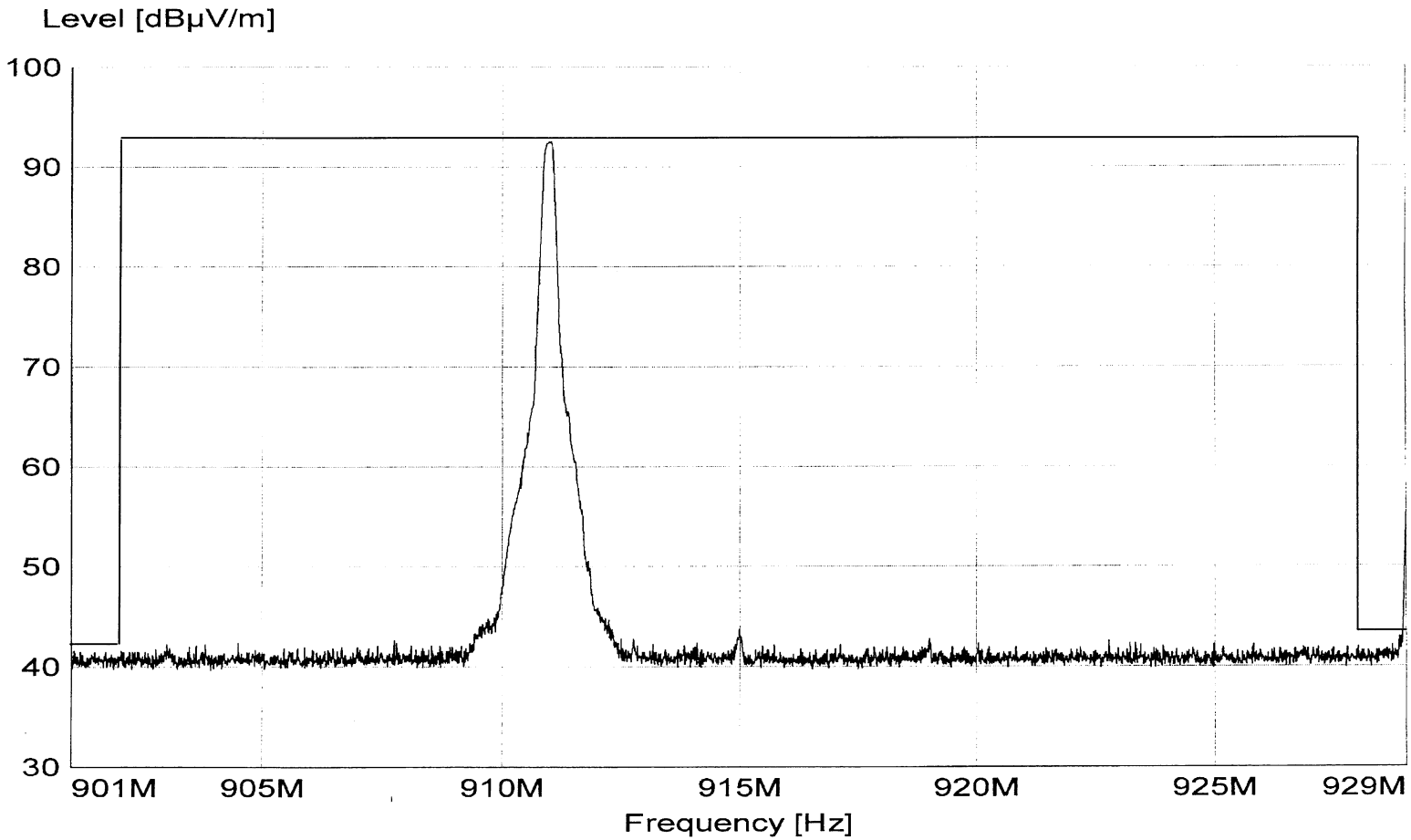
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Band Edge Plots 902 MHz to 928 MHz				
Customer:	Digistar Corporation	Test Sample:	RF Transceiver	Job No:	R-3777N1
Model No:	RF900	Serial No:	n/a	Technician:	T. Firkowski
Test Specification:	FCC Part 15 Subpart C	Paragraph: 15.249		Date:	9/27/01
Operating Mode:	Continuously Transmitting				
Notes:	Transmit Frequency: 911 MHz RBW: 100kHz, VBW: 300kHz				



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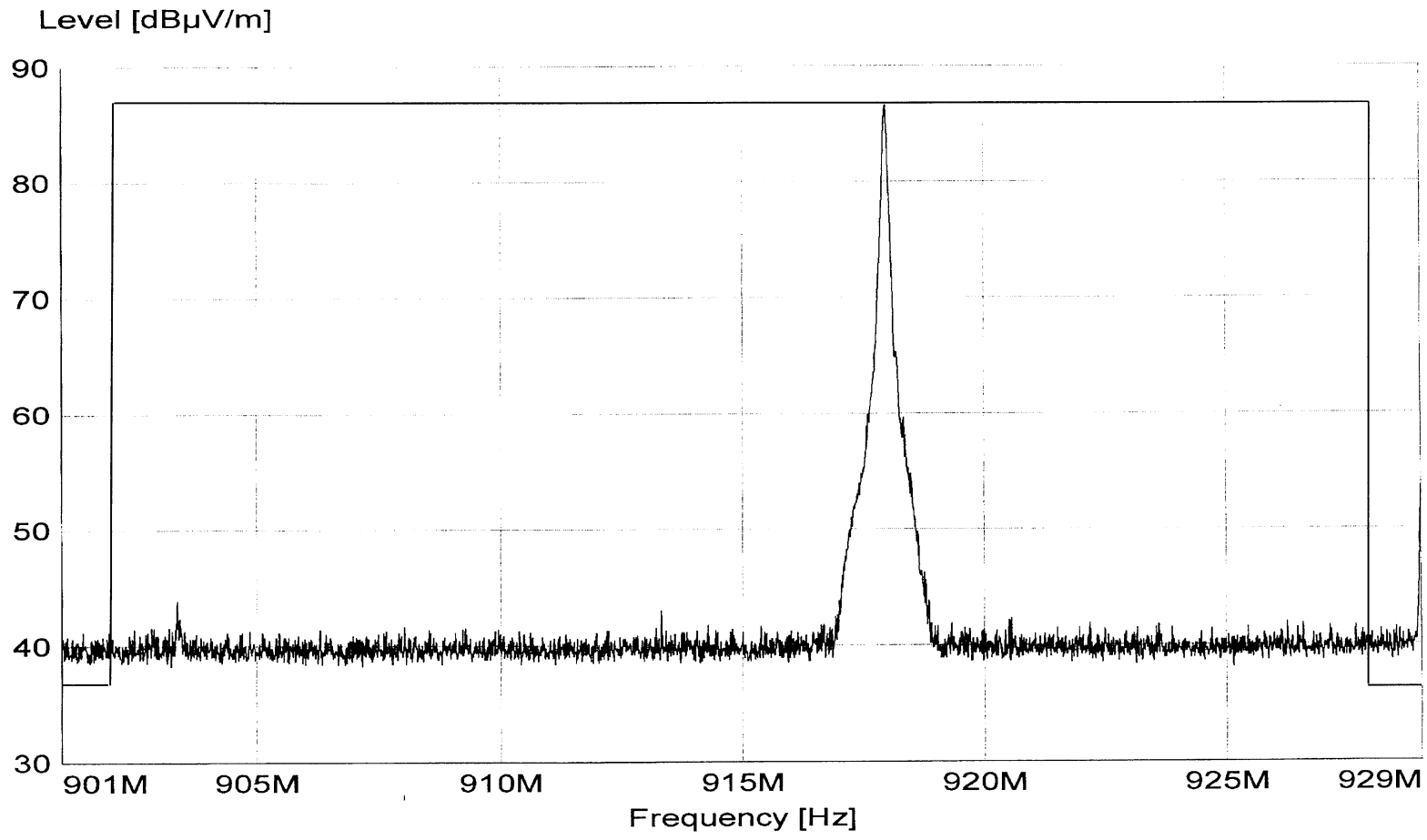
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Band Edge Plots 902 MHz to 928 MHz				
Customer:	Digistar Corporation	Test Sample:	RF Transceiver	Job No:	R-3777N1
Model No:	RF900	Serial No:	n/a	Technician:	T. Firkowski
Test Specification:	FCC Part 15 Subpart C	Paragraph: 15.249		Date:	9/27/01
Operating Mode:	Continuously Transmitting				
Notes:	Transmit Frequency: 918 MHz RBW: 100kHz, VBW: 300kHz See Tabular Data Sheet for 15.209 Compliance				



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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	**Band Edge Data 902 MHz to 928 MHz**		
Customer:	Digistar Corporation	**Job No:**	R-3777N1
Test Sample:	RF Transceiver		
Model No:	RF900	**Serial No:**	n/a
Test Specification:	FCC Part 15 Paragraph: 15.209		
Operating Mode:	Continuously Transmitting		
Technician:	T. Firkowski	**Date:**	9/27/01
Notes:	Peak readings at 3 meters		

Band Edge Frequency	Antenna/EUT Position	Meter Reading	Site Correction	Corrected Readings	Converted Reading					Limit @ 3 meters
MHz	Polarization/Axis	dBuV	dB	dBuV/m	uV/m					uV/m
Transmit Frequency: 903 MHz										
902.00	V/X	5.72	37.28	43.00	141.25					200.00
928.00	V/X	3.61	37.39	41.00	*112.2					200.00
Transmit Frequency: 918 MHz										
902.00	V/X	3.72	37.28	41.00	*112.2					200.00
928.00	V/X	3.61	37.39	41.00	*112.2					200.00

*minimum system sensitivity. The EUT is compliant at the band edges with 15.209 radiated emissions limits.