

4.9 Radiated Emissions from Digital Section
FCC Rule 15.109

Test was performed as described in the section 4.6.

Test results are attached.

Radiated Emissions 30 MHz - 1000 MHz
FCC Part 15 Class A (QP-Vertical)

Operator: Chuck Hough

Model Number: LYNX DS-3
ITS Job Number: J200
Company: Western Multiplex

03:33:13 PM, Tuesday, January 23, 2001

		1		2		3		4		5		6		7	
		QP Level		Limit@10m		QP Margin		Raw		Antenna		Cable		Preamp	
Frequency MHz		(dBuV/m)		(dBuV/m)		(dB)		(dBuV)		(dB)		(dB)		(dB)	
48.125 MHz		19.3		39.0		-19.7		41.8		6.2		0.6		32.3	
71.81 MHz		20.9		39.0		-18.1		42.2		7.1		1.0		32.4	
253.925 MHz		20.5		46.4		-25.9		36.5		12.6		2.1		33.7	
313.18 MHz		21.9		46.4		-24.5		35.4		14.6		2.1		33.2	
355.4925 MHz		28.6		46.4		-17.8		41.3		15.3		2.3		33.3	
467.0625 MHz		11.0		46.4		-35.4		20.1		18.2		2.9		33.2	
964.901 MHz		28.7		49.5		-20.8		30.8		23.4		4.2		32.7	

Test Mode: Normal

Temperature: 21.61 C

Humidity: 34.68 %

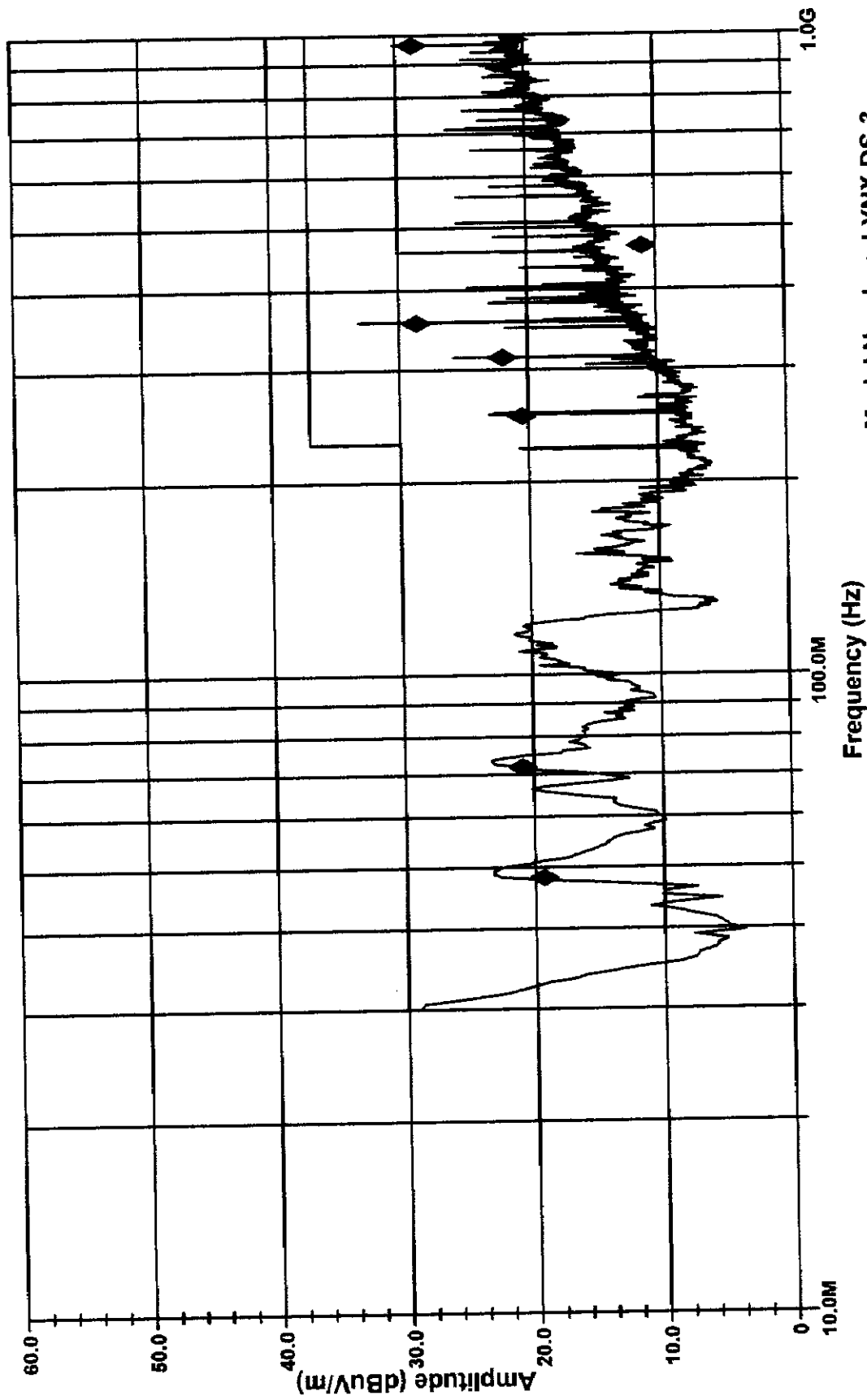
Intertek Testing Services

Radiated Emissions 30 MHz - 1000 MHz

EN55022 Class B (Vertical)

Test Mode: Normal
Temperature: 21.61 C
Humidity: 34.68 %

— Limit at 10 m
— Peak Scan Vertical
◆ Quasi Peak Level



Model Number: LYNX DS-3

Company: Western Multiplex

ITS Job Number: J200

Operator: Chuck Hough

03:33:13 PM, Tuesday, January 23, 2001

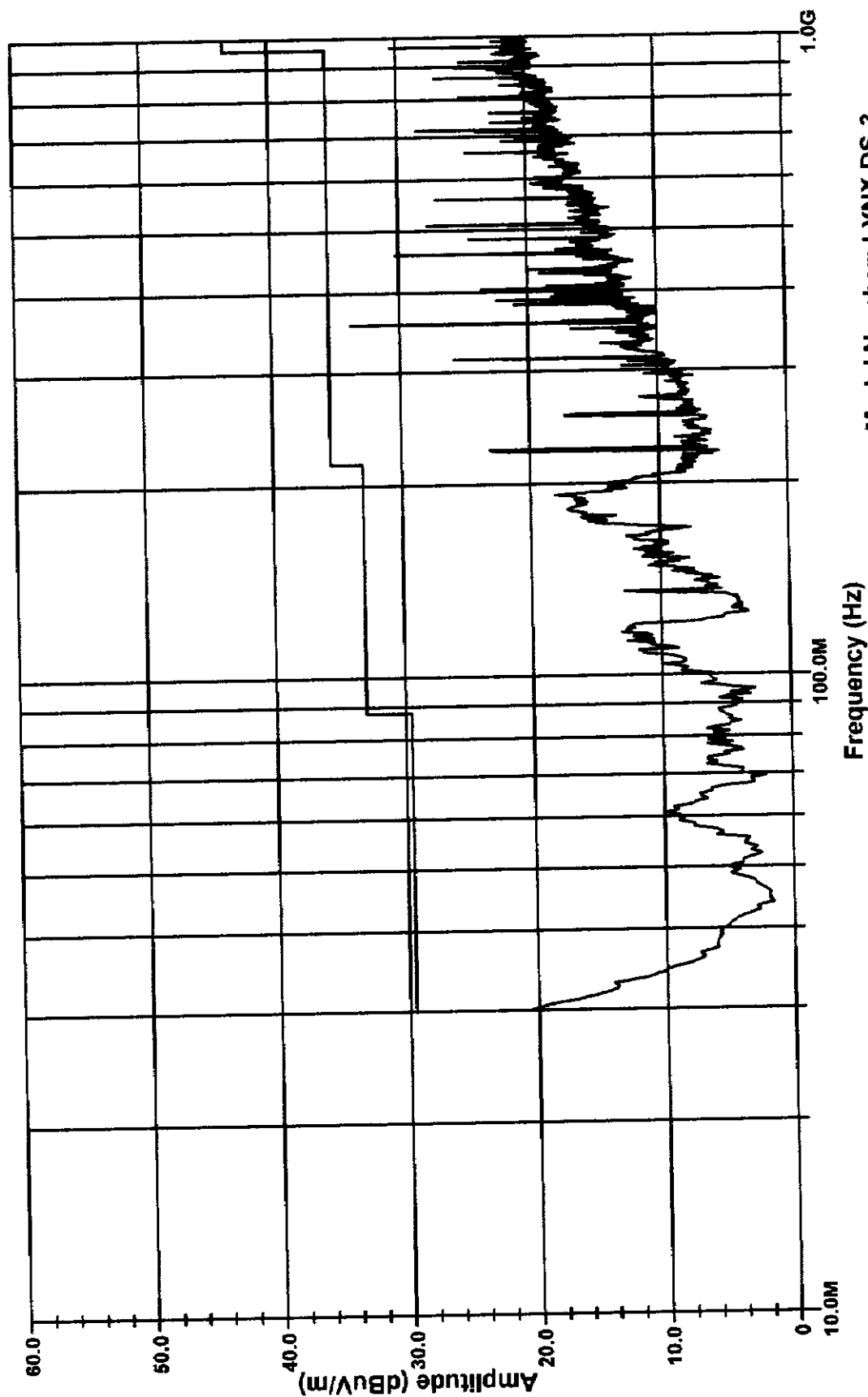
Intertek Testing Services

Radiated Emissions 30 MHz - 1000 MHz

FCC Part 15 Class B (Horizontal)

Test Mode: Normal
Temperature: 21.61 C
Humidity: 34.68 %

— Limit at 10 m
— Peak Scan Horizontal
◆ Quasi Peak Level



Model Number: LYNX DS-3

Company: Western Multiplex

ITS Job Number: J200

Operator: Chuck Hough

12:02:04 PM, Tuesday, January 23, 2001

Intertek Testing Services
Radiated Emissions 30 MHz- 1000 MHz
FCC Part 15 Class B (Pk-Vertical)

Operator: Chuck Hough

Model Number: LYNX DS-3
ITS Job Number: J200
Company: Western Multiplex

12:14:42 PM, Tuesday, January 23, 2001

1	2	3	4	5	6	7
Frequency (MHz)	Pk Level (dBuV/m)	Limit@10m (dBuV/m)	Pk Margin (dB)	Raw (dBuV)	Antenna (dB)	Cable (dB)
48.79375 MHz	23.3	29.5	-6.2	46.0	6.0	0.6
73.21249 MHz	23.3	29.5	-6.2	44.2	7.5	1.0
88.0 MHz	23.3	29.5	-6.2	33.9	7.6	1.1
216.0 MHz	23.1	33.0	-9.9	24.0	11.5	1.8
255.525 MHz	23.0	35.5	-12.5	39.2	12.5	2.1
313.725 MHz	25.8	35.5	-9.7	39.2	14.6	2.1
348.8875 MHz	21.8	35.5	-13.7	34.8	15.0	2.3
356.1625 MHz	33.1	35.5	-2.4	45.7	15.4	2.3
381.625 MHz	22.9	35.5	-12.6	34.6	15.9	2.6
387.6875 MHz	21.5	35.5	-14.0	33.3	15.8	2.6
403.45 MHz	24.6	35.5	-10.9	35.6	16.6	2.6
458.0125 MHz	29.8	35.5	-5.7	39.3	17.8	2.8
483.475 MHz	22.6	35.5	-12.9	32.5	17.3	3.0
508.9375 MHz	25.4	35.5	-10.1	33.8	18.8	3.2
559.2562 MHz	25.4	35.5	-10.1	33.3	19.4	3.2
580.475 MHz	22.7	35.5	-12.8	30.6	19.2	3.3
660.4999 MHz	24.1	35.5	-11.4	31.0	20.2	3.4
711.425 MHz	26.2	35.5	-9.3	32.0	21.4	3.4
716.275 MHz	24.5	35.5	-11.0	30.3	21.4	3.4
735.675 MHz	23.5	35.5	-12.0	30.1	20.6	3.5
761.7438 MHz	24.8	35.5	-10.7	28.8	23.1	3.6
960.0 MHz	30.1	35.5	-5.4	23.5	23.6	4.2
965.4438 MHz	30.2	43.5	-13.3	32.3	23.4	4.2
Test Mode: Normal						
Temperature: 21.61 C						
Humidity: 34.68 %						

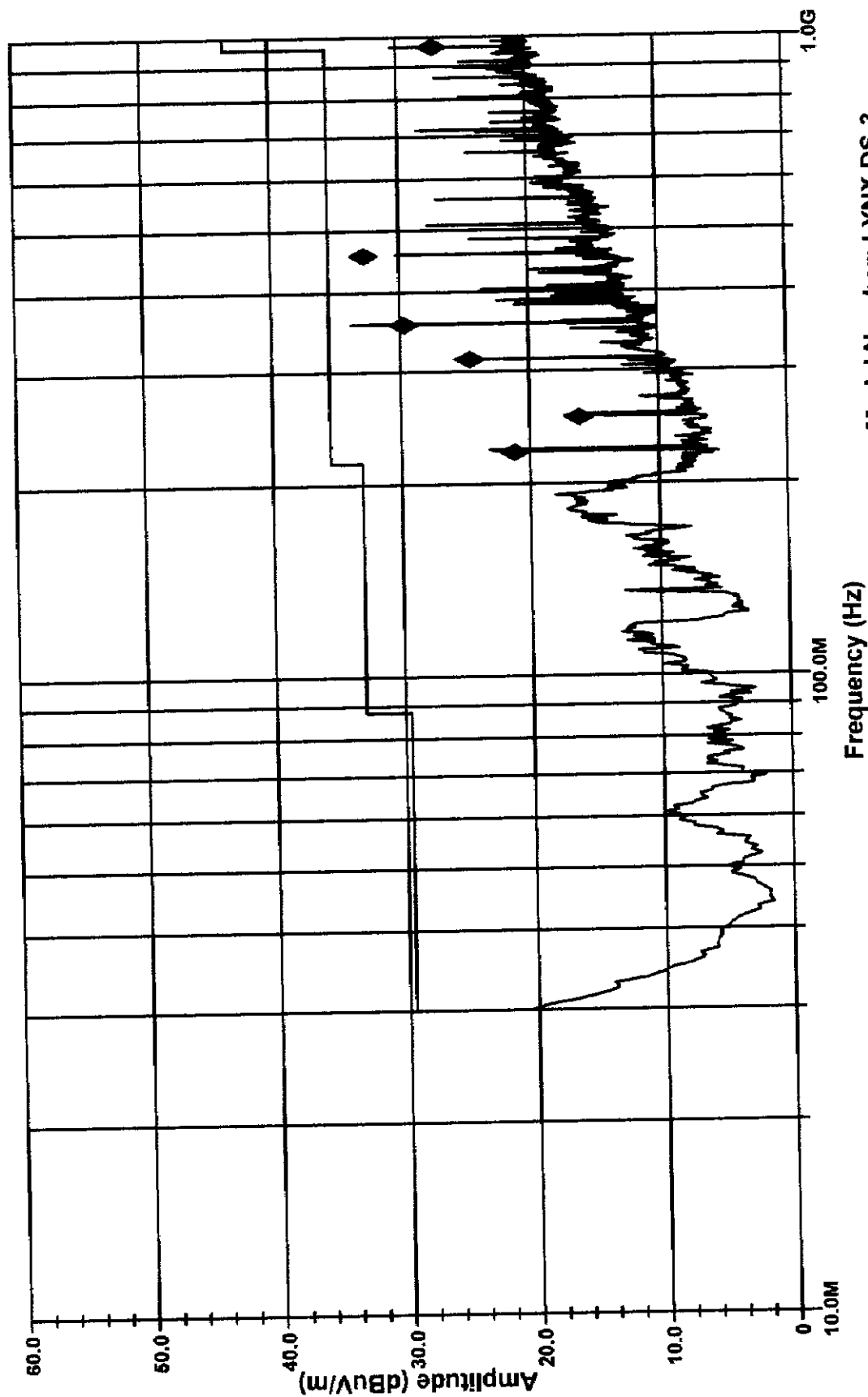
Intertek Testing Services

Radiated Emissions 30 MHz - 1000 MHz

FCC Part 15 Class B (Horizontal)

Test Mode: Normal
Temperature: 21.61 C
Humidity: 34.68 %

— Limit at 10 m
— Peak Scan Horizontal
◆ Quasi Peak Level



Model Number: LYNX DS-3

Company: Western Multiplex

ITS Job Number: J200

Operator: Chuck Hough

03:06:33 PM, Tuesday, January 23, 2001

Intertek Testing Services

Radiated Emissions 30 MHz - 1000 MHz
FCC Part 15 Class B (Pk-Horizontal)

Operator: Chuck Hough

Model Number: LYNX DS-3
ITS Job Number: J200
Company: Western Multiplex

12:02:00 PM, Tuesday, January 23, 2001

12:02:00 PM, Tuesday, January 23, 2001	1	2	3	4	5	6	7
Frequency (MHz)	Pk Level (dBuV/m)	Limit@10m (dBuV/m)	Pk Margin (dB)	Raw (dBuV)	Antenna (dB)	Cable (dB)	Preamplifier (dB)
191.8688 MHz	18.1	33.0	-14.9	36.1	9.5	1.7	32.2
226.425 MHz	23.1	35.5	-12.4	41.4	10.5	1.9	33.7
255.525 MHz	17.3	35.5	-18.2	34.5	11.4	2.1	33.7
313.725 MHz	25.8	35.5	-9.7	40.2	13.6	2.1	33.2
356.1625 MHz	33.8	35.5	-1.7	46.6	15.2	2.3	33.3
381.625 MHz	21.1	35.5	-14.4	33.6	15.1	2.6	33.2
387.6875 MHz	22.4	35.5	-13.1	34.3	15.7	2.6	33.2
403.45 MHz	23.6	35.5	-11.9	34.8	16.4	2.6	33.2
432.55 MHz	19.9	35.5	-15.6	29.8	17.6	2.7	33.1
458.0125 MHz	30.3	35.5	-5.2	40.3	17.3	2.8	33.1
484.0812 MHz	24.5	35.5	-11.0	34.1	17.7	3.0	33.2
508.9375 MHz	27.7	35.5	-7.8	36.7	18.2	3.2	33.4
559.2562 MHz	27.0	35.5	-8.5	35.1	19.2	3.2	33.5
661.1063 MHz	24.7	35.5	-10.8	30.6	21.1	3.4	33.4
712.0313 MHz	23.8	35.5	-11.7	30.0	21.0	3.4	33.6
716.275 MHz	28.5	35.5	-7.0	34.3	21.3	3.4	33.6
806.0 MHz	25.1	35.5	-10.4	29.5	22.2	4.1	33.7
864.2001 MHz	27.0	35.5	-8.5	31.3	22.0	4.2	33.5
895.725 MHz	25.4	35.5	-10.1	28.5	22.8	4.2	33.1
965.4438 MHz	30.5	43.5	-13.0	33.0	23.0	4.2	32.7

Test Mode: Normal

Temperature: 21.61 C

Humidity: 34.68 %

Intertek Testing Services

Radiated Emissions 30 MHz - 1000 MHz
FCC Part 15 Class B (QP-Horizontal)

Operator: Chuck Hough

Model Number: LYNX DS-3
ITS Job Number: J200
Company: Western Multiplex

03:06:33 PM, Tuesday, January 23, 2001

1	2	3	4	5	6	7
Frequency MHz	QP Level (dBuV/m)	QP Margin (dB)	Raw (dBuV)	Antenna (dB)	Cable (dB)	Preamp (dB)
223.6925 MHz	21.2	-14.3	39.6	10.4	1.8	33.7
253.9275 MHz	16.1	-19.4	33.3	11.5	2.1	33.7
313.1863 MHz	24.6	-10.9	39.0	13.6	2.1	33.2
355.4875 MHz	29.7	-5.8	42.5	15.1	2.3	33.3
457.0625 MHz	32.7	-2.8	42.8	17.2	2.8	33.1
964.9005 MHz	27.2	-16.3	29.7	23.0	4.2	32.7

Test Mode: Normal

Temperature: 21.61 C

Humidity: 34.68 %

4.10 Radiated Emissions from Receiver Section
FCC Ref: 15.109, 15.111

Not required - EUT operation above 960 MHz only

4.11 Transmitter Duty Cycle Calculation / Measurements FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEEP function on the analyzer was set to ZERO SPAN. The transmitter ON time was determined from the resultant time-amplitude display:

Duty cycle = Maximum ON time in 100 msec/100

Duty cycle correction, dB = $20 * \log (DC)$

	See attached spectrum analyzer chart(s) for transmitter timing
	See transmitter timing diagram provided by manufacturer
X	Not applicable.

5.0 List of Test Equipment

Equipment	Manufacturer	Model	Serial #	Cal. Int.	Cal. Due	Used
Biconical Antenna	EMCO	3104	3789	12	4/10/01	X
Log Periodic Antenna	EMCO	EM LPA-25	1079	12	4/10/01	X
Double-ridged Horn Antenna	EMCO	3115	9107-3712	12	6/25/01	X
Horn Antenna	EMCO	3160-9	N/A	#	#	X
Pre-amplifier	ComPower	CPPA-102	1256	12	4/28/01	X
Pre-amplifier	CDI	P1000	N/A	12	10/14/00	X
Pre-amplifier	Avantek	AFT18855	8723H705	12	10/14/00	X
Pre-amplifier	CTI	ACO/400	47526	12	10/14/00	X
Spectrum Analyzer w/8650 QP Adapter	Hewlett Packard	HP 8566B	2416A00317 2521A01021	6	2/03/01	X
Spectrum Analyzer	Tektronix	2784	B3020108	12	8/4/01	X
Peak Power Meter	Hewlett Packard	8900D	3607U00673	12	7/31/01	X
Peak Power Sensor	Hewlett Packard	84811A	3318A05091	12	12/7/99	X

Calibration is not required