6 CONDUCTED EMISSIONS DATA

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are recorded.

Test Date: December 10, 1998
UST Project: 98-116
Customer: Magnisight, Inc.
Model: Portable Mini Reader System Model X-MRS-7

Frequency (MHz)	Test Data (dBm)		LISN Loss (dB)		Cable Factor (dB)	Results (uV)		FCC Class A Limits (uV)	Margin Below Limit (dB)	
	Phase	Neutral	Phase	Neutral		Phase	Neutral		Phase	Neutral
3.3	-67.0	-90.0	0.0	0.0	0.3	103.5	7.3	250.0	7.7	30.7
9.6	-61.0	-86.0	0.0	0.0	0.5	211.3	11.9	250.0	1.5	26.4
10.7	-69.0	-91.0	0.1	0.1	0.6	86.1	6.8	250.0	9.3	31.3
15.5	-84.0	-67.0	0.1	0.1	0.6	15.3	108.4	250.0	24.3	7.3
15.2	-80.0	-67.0	0.1	0.1	0.5	24.0	107.2	250.0	20.4	7.4
21.7	-85.0	-68.0	0.1	0.1	0.7	13.8	97.7	250.0	25.2	8.2

Sample Calculations:
Results uV = Antilog ((-67.0 + 0.0 + 0.3 + 107)/20) = 103.5
Conversion from dBm to dBuV = 107 dB

Results
Reviewed By: _____ **Name:** Tim R. Johnson

7 RADIATED EMISSION DATA

7.1 The following data lists the significant emission frequencies, measured levels, correction factor (includes cable and antenna corrections), the corrected reading, plus the limit.

Test Date: December 9, 1998
UST Project: 98-116
Customer: Magnisight, Inc.
Model: Portable Mini Reader System Model X-MRS-7

Frequency (MHz)	Test Data (dBm) @3m	Ant. Factor + Cable Attenuation	Results (uV/m) @3m	FCC Limits (uV/m) @3m	Margin Below Limit (dB)
32.4	-92.0	15.3	32.6	100.0	9.7
47.7	-86.0	12.3	46.1	100.0	6.7
66.7	-83.5*	11.6	56.9	100.0	4.9
124.0	-88.0	14.2	45.6	150.0	10.3
162.1	-85.0	15.6	75.5	150.0	6.0
324.0	-94.0	19.0	39.8	200.0	14.0

*** = Quasi Peak**

Results
Reviewed By: _____ **Name:** Tim R. Johnson

7.2 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + CF - AG

where **FS = Field Strength**

RA = Receiver Amplitude

CF = Correction Factor
= Antenna Factor + Cable Loss

AG = Amplifier Gain

FS (uV/m) = Antilog [(-92.0 + 15.3 + 107) / 20] = 32.6

8 MEASUREMENT OF MAXIMUM RF OUTPUT LEVEL

The output level of the EUT was measured across a 75 Ω resistance with the input level supplied by the camera, sold with the system. Channel 4 was also investigated but Channel 4 was worse than Channel 3.

Test Date: December 9, 1998
UST Project: 98-116
Customer: Magnisight, Inc.
Model: Portable Mini Reader System Model X-MRS-7

Frequency (MHz)	Measured Reading (uV)	Limit (uV)
~~Video = 67.27~~ Audio = 71.80	~~1839~~ 318.4	~~3000~~ 671.1

The Limits were calculated as follows:

Video Signal Limit = 346.4 x SQRT (75Ω) = 3000 uV

Audio Signal Limit = 77.5 x SQRT (75Ω) = 671.1 uV

Results
Reviewed By: _____ **Name:** Tim R. Johnson

9 MEASUREMENT OF RF OUTPUT SPURIOUS EMISSIONS

The RF output emissions of the EUT was measured across a 75 Ω resistance with the input level supplied by the camera, sold with the system. The system was examined in frequency from 30 MHz to 2 GHz for output Channels 3 and 4. Channel 4 was worse than Channel 3. The RBW was set to 30 kHz for all measurements.

Test Date: **December 9, 1998**
UST Project: **98-116**
Customer: **Magnisight, Inc.**
Model: **Portable Mini Reader System Model X-MRS-7**

Frequency (MHz)	Measured Reading (uV)	Limit (uV)
No Measurable Emissions		

Results
Reviewed By: _____ **Name:** **Tim R. Johnson**

10 MEASUREMENT OF RECEIVER ANTENNA INPUT TERMINAL SPURIOUS EMISSIONS

The receiver antenna input terminal emissions of the EUT was measured across a 75 Ω resistance with the input level supplied by the camera, sold with the system. The system was examined in frequency from 30 MHz to 1 GHz for output Channel 4. Channel 4 was worse than Channel 3. The RBW was set to 10 kHz for all measurements.

Test Date: December 11, 1998
UST Project: 98-116
Customer: Magnisight, Inc.
Model: Portable Mini Reader System Model X-MRS-7

Frequency (MHz)	Measured Reading (uV)	Limit (uV)
65.7	2.5	3.0

The Limits were calculated as follows:

Limit = 0.346 x SQRT (75Ω) = 3.0 uV

Results
Reviewed By: _____ **Name:** Tim R. Johnson