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TRANSMITTER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO. MHS100200 – Spectra-2400	**2. MANUFACTURER'S NAME** **Microhard Systems Inc.**
3. TRANSMITTER INSTALLATION	**4. TRANSMITTER TYPE** FM
5. TUNING RANGE 2.4 – 2.4835 GHz	**6. METHOD OF TUNING** Synthesis PLL
7. RF CHANNELING CAPABILITY 2.4 – 2.4835 GHz w/ 400 kHz increments	**8. EMISSION DESIGNATOR(S)** FM Modulated 350kF1D
9. FREQUENCY TOLERANCE < 3 PPM	
10. FILTER EMPLOYED *(X one)* **X a. YES** ☐ **b. NO**	
11. SPREAD SPECTRUM *(X one)* **X a. YES** ☐ **b. NO**	**12. EMISSION BANDWIDTH** *(X and complete as applicable)* ☐ **CALCULATED** **X MEASURED**
13. MAXIMUM BIT RATE ~ 175 kbps	**a. -3 dB** 210 kHz **b. -20 dB** 350 kHz
14. MODULATION TECHNIQUES AND CODING **CPFSK**	**c. -40 dB** 695 kHz **d. -60 dB** 1220 kHz **e. OC-BW** N/A Frequency Hopper
	15. MAXIMUM MODULATION FREQUENCY 87 kHz
16. PRE-EMPHASIS *(X one)* **X a. YES** ☐ **b. NO**	**17. DEVIATION RATIO** 2
	18. PULSE CHARACTERISTICS **N/A (frequency modulated)**
19. POWER	**a. RATE** **N/A (frequency modulated)**
a. MEAN up to 1 Watt	**b. WIDTH** **N/A (frequency modulated)**
b. PEP up to 1Watt	**c. RISE TIME** **N/A (frequency modulated)**
20. OUTPUT DEVICE Advanced Gallium Arsenide HBT	**d. FALL TIME** **N/A (frequency modulated)** **e. COMP RATIO** **N/A (frequency modulated)**
	21. HARMONIC LEVEL
22. SPURIOUS LEVEL **60 dB**	**a. 2nd** **-27 dBm**
23. FCC TYPE ACCEPTANCE NO. **Part 15.247 Rules NS 901P5**	**b. 3rd** **-30 dBm** **c. OTHER**

24. REMARKS

Microhard Systems Inc.
#17 2135-32nd Avenue NE
Calgary, AB, Canada
T2E 6Z3
Phone: (403) 248-0028
Fax: (403) 248-2762
Attn: Hany Shenouda

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RECEIVER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO. MHS100200 – Spectra-2400	**2. MANUFACTURER'S NAME** Microhard Systems Inc.
3. RECEIVER INSTALLATION	**4. RECEIVER TYPE** FM
5. TUNING RANGE 2.4 – 2.4835 GHz	**6. METHOD OF TUNING** Synthesis PLL
7. RF CHANNELING CAPABILITY 2.4 – 2.4835 GHz w/ 400 kHz increments	**8. EMISSION DESIGNATOR(S)** FM Modulated Receiver
9. FREQUENCY TOLERANCE < 3 PPM	

10. IF SELECTIVITY	**1st**	**2nd**	**3rd**
a. -3 dB	1.15 MHz	280 kHz	N/A
b. -20 dB	3.40 MHz	650 kHz	N/A
c. -60 dB	<16.0 MHz	1.25 MHz	N/A

11. RF SELECTIVITY (X and complete as applicable)

☐ **CALCULATED** **X MEASURED**

a. -3 dB	400 kHz
b. -20 dB	600 kHz
c. -60 dB	2.4 MHz

12. IF FREQUENCY	**d. Preselection Type** Front end LC Filter
a. 1st 110.6 MHz	**13. MAXIMUM POST DETECTION FREQUENCY** 87 kHz
b. 2nd 10.7 MHz	**14. MINIMUM POST DETECTION FREQUENCY** 58 kHz
c. 3rd N/A	**16. MAXIMUM BIT RATE** 175 kbps

15. OSCILLATOR TUNED	**1st**	**2nd**	**3rd**
a. ABOVE TUNED FREQUENCY		X	N/A
b. BELOW TUNED FREQUENCY			N/A
c. EITHER ABOVE OR BELOW THE FREQUENCY	X		N/A

17. SENSITIVITY	
a. SENSITIVITY	**-105 dBm**
b. CRITERIA	**10^{-6} bit error rate**
c. NOISE FIG	< 5**dB**
d. NOISE TEMP	**- Kelvin**

18. DE-EMPHASIS *(X one)* **X a. YES** ☐ **b. NO**	
19. IMAGE REJECTION **- 50 dBc**	**20. SPURIOUS REJECTION** **> 60 dBc**

21. REMARKS

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