DNB ENGINEERING, INC.

CERTIFICATION
FOR
INTENTIONAL RADIATOR

Per
Part 15 Subpart C
(CFR 47, 15,203, 15.249 & 15.209)

EUT: Low Power Transmitter (903.0 MHz to 927.0 MHz) (903.0 MHz to 927.0 MHz)
Model No. 21T20
903.0 MHz to 927.0 MHz

PREPARED FOR APPLICANT:
Remtron
1916 W. Mission Rd
Escondido, CA 92029-1114
(760) 737-7800

REPORT #06034-3F
Test Date: 11/30/99

Prepared By:
DNB ENGINEERING, INC.
1100 East Chalk Creek Rd.
Coalville, Utah 84017
Tel: 1(435) 336-4433

Revision Letter	Number of Pages	Page No. of Rev.	Description	Date
A	33		Document Release	1/14/00

TRANSMITTAL SUMMARY

Remtron
1916 W. Mission Rd.
Escondido, CA 92029-1114

Unit tested:	Low Power Transmitter (903.0 MHz to 927.0 MHz) (903.0 MHz to 927.0 MHz)
Model #:	21T20
FCC ID:	EGT820TX
Specifications:	ANSI C63.4 1992 and CFR 47 FCC part 15 Subpart C
Purpose of Report:	This report was prepared to document the status of the 21T20 with requirements of the standards listed above.
Requirements not applicable to EUT	Part 15.37 - Not applicable Emergency Broadcast System - Not applicable Spread Spectrum Exhibit - Not applicable Scanning Receiver - Not applicable
Test Summary	The EUT's compliance status according to the tests performed is as follows.

REQUIREMENTS	STATUS
FCC part 15 Subpart C	
per 15.203, 15.249 & 15.209	COMPLIANT

CERTIFICATION OF TEST DATA - per 2.911(d)

This report, containing emissions test data and evaluations, has been prepared by an independent electromagnetic compatibility laboratory, DNB ENGINEERING, in accordance with the applicable specifications and instructions required per the Introduction. DNB Engineering has been evaluated to do these tests by the American Association for Laboratory Accreditation, A2LA.

The data evaluation and equipment configuration presented herein are a true and accurate representation of the measurements of the test emissions characteristics as of the dates and at the times of the test under the conditions herein specified.

Equipment Tested:	Low Power Transmitter (903.0 MHz to 927.0 MHz)
Model #:	21T20
FCC ID#:	EGT820TX
Dates of Test:	11/30/99-12/8/99

Test Performed: _____ _____
Yancey Staples/ Jeff Williams — Date
Test Technician

Test Report Reviewed: _____ _____
Rick Linford — Date
Facility Manager
Regulatory Engineer

1. INTRODUCTION

1.1 Administrative Data Per 2.1033(a) and 2.911(c)

1.1.1 REQUEST FOR CERTIFICATION Per 2.1033(b)1:

Applicant: **Remtron**
1916 W. Mission Rd
Escondido, CA 92029-1114

Contact: John Schooley
Phone: (760) 737-7800

Dates of Test: 11/30/99 –12/8/99

Equipment Under Test (EUT): Low Power Transmitter (903.0 MHz to 927.0 MHz)
FCC ID: EGT820TX

1.2 Related Submittals/Grants

None.

1.3 Purpose of Tests

The purpose of this series of tests was to demonstrate the Electromagnetic Compatibility (EMC) characteristics of the EUT. The following tests were performed:

REQUIREMENTS	STATUS
FCC part 15 Subpart C	
per 15.249 & 15.209	COMPLIANT

2. TEST DESCRIPTION

2.1 Test Configuration

Config-uration	Unit Name - Processor, Monitor, Printer, Cable, etc. (indent for features of a unit)	Style/Model/ Part No.	Serial Number	Obj. of test	VAC	Comments/ FCC ID#
A	Low Power Transmitter (903.0 MHz to 927.0 MHz)	21T20		■		EGT820TX
	PCB Rev –D-01	ASSY 900156				

■ - Specific device(s) for which this test is being conducted.

2.2 Equipment Description

Hand Held Transmitter for wireless control of cranes. Operating Frequency from 903.0 MHz to 927.0 MHz. On 81 different frequencies (see table 5.3 in user's manual for complete list. Power Supply is 2 AA Batteries.

2.3 Mode of Operation

The EUT was tested at three frequencies (near low, mid and high of tuning range)The worst case position was determined by rotating the EUT vertical, horizontal, and on it's side The worst case position was standing vertical on its end. Jumper J3 is installed to enable continuous transmission. Fresh batteries were installed for final measurements...

2.4 Antenna Requirement - per 15.203

The antenna is Internally fixed- - - -.

2.5 Documented EMC Control Measures.

To insure no out of band emissions are possible, the applicant has limited the tuning range. Changed from 902.1 MHz-927.9 MHz to 903.0 MHz-927.0 MHz.

In software transmitter was not enabled until frequency had locked.

2.6 Duty Cycle Corrections.

The duty cycle was determined from the documentation provided by the manufacturer calling out 20% on, which give 14.0 dB correction. The 14.0 dB was put into the Duty Cable Factor formula.

2.7 Circuit Description - per 2.1033(b)4

21T20 and 21T23

Circuit Description:

The transmitter referenced herein is a part of an industrial control system. The transmitter sends switch information to a receiver by means of digital FM in packet mode. The transmitter is housed in a plastic case with rubber keypad. All of the transmitter's functions are controlled by a microprocessor with a special memory for configuration information.

Transmitters are synthesized to a reference crystal and can be tuned by means of a special programmer to 87 frequencies covering the 902 to 928 MHz band. Channel spacing is 300 KHz.

When a packet is to be sent, the microprocessor loads the frequency information into the frequency synthesizer and activates the RF portion of the transmitter. Digital modulation is applied at a maximum rate of 28.8 K baud. The microprocessor removes power from the RF portion at the end of the data packet.

The transmitter sends data at two rates. When On, but no command switches are being pushed or released, the transmitter sends an RF signal lasting 12 ms. at a programmable interval that is a multiple of 60 ms. This is usually set to 4 periods so that the RF is on 12 ms. out of 240 ms. When the transmitter is first turned on and then anytime a command switch changes value, the transmitter sends three to five consecutive packets at the 60 ms. interval. The maximum duty cycle of the transmitter is therefore 12 ms. out of 60 ms. or 20%.

The antenna for the transmitter is printed on the circuit board and internal to the case. The transmitter is powered by three AA cells which power a voltage converter that supplies a constant 5 VDC to the transmitter circuits.

2.8 Schematics

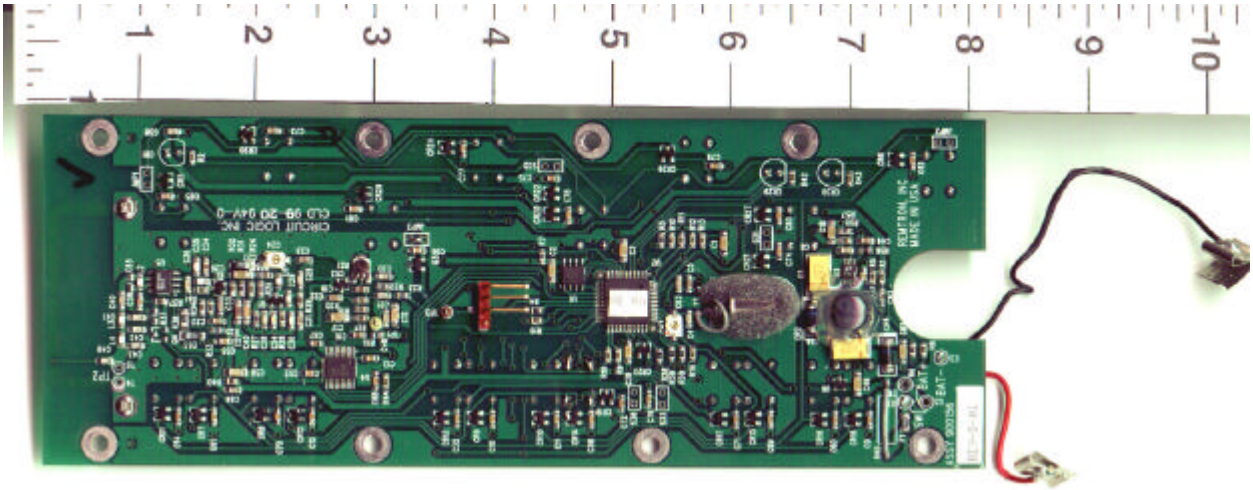
Low Power Transmitter (903.0 MHz to 927.0 MHz) 21T20

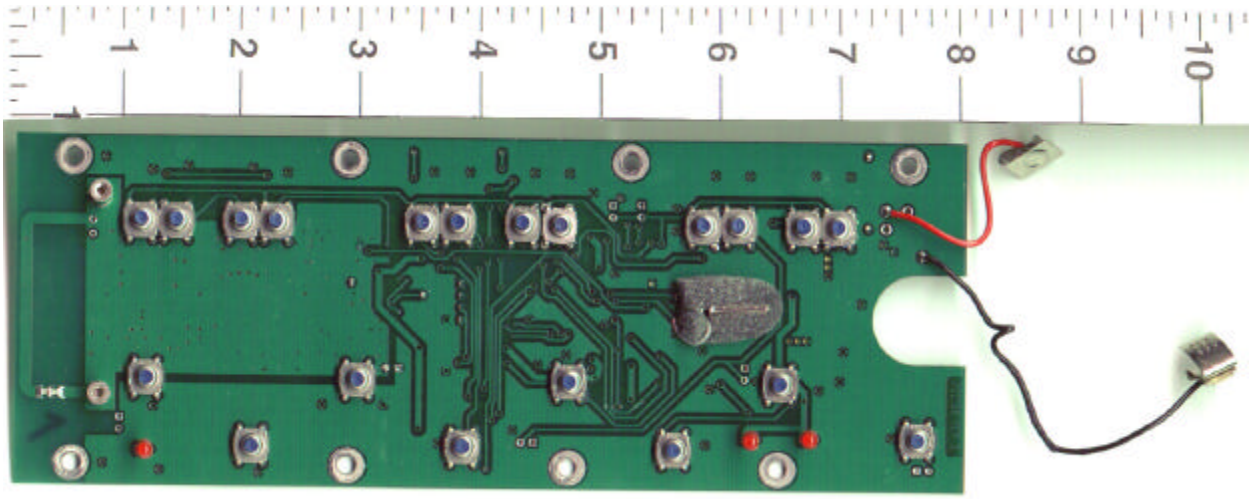
PDF File. See the attachment that was electronically submitted.

2.9 Photograph of EUT - per 2.1033(b)(7)

Low Power Transmitter 21T20

Front and Back Low Power Transmitter 21T20 PCB





PDF File. See the attachment that was electronically submitted.

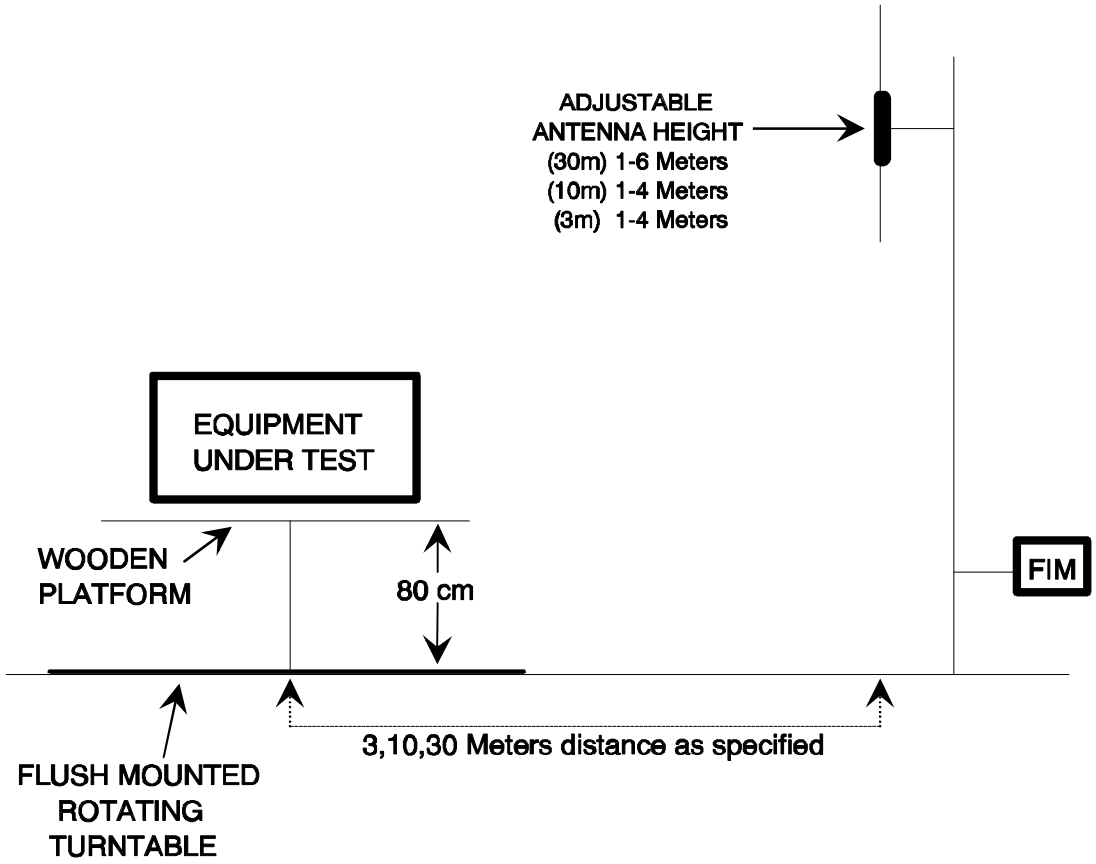
3. EMISSIONS FCC PART 15

per FCC part 15 Subpart C

3.1 Radiated Emissions Test Setup and Procedure - Per 2.1033(b)(6) Per 2.947(a)

The EUT was placed on a wooden table 1 meter wide and 1.5 meters long which rests on a flush mounted, steel-top turntable on the open area test site as shown in Section 3.1.1.1. The top of the table is 80 cm above the ground plane. The turntable can be rotated 360 degrees. Measuring antenna is set at the prescribed distance. Measurements are made with broad band antennas that have been correlated with tuned dipole antennas. The mast is 4.5 meters high and is self-supporting. The height of the antenna can be varied from 1 to 4 meters. Positioning of the antenna is controlled remotely.

3.2 Spurious Radiation Test Site Per 2.1033(b)6



Radiated Test Setup and Procedure - cont'd

The EUT is put into the operational test mode as stated in Section 2.2.1 is then started.

The spectrum analyzer is setup to store the peak emission over the band of the antenna. Peak EUT and ambient emissions are stored while the turntable is rotated 360^0. Peak spectrum analyzer trace is then plotted with the addition of antenna and cable correction factors. The limit is plotted on the same graph. A receiver with CISPR Quasi Peak capabilities is then used on the frequencies identified as the highest with respect to the plotted limit. Ambients are noted on the graph along with EUT emissions. The highest EUT frequencies, with respect to the limit, are maximized.

To maximize emissions levels, the turntable is rotated and the antenna is raised and lowered to determine the point of maximum emanations. The cables are then manipulated at that point to maximize emissions. Measurements are made with the antennas in each horizontal and vertical polarization separately. The data obtained from these tests is corrected with the proper cable, preamplifier and antenna factors. The results are then transcribed onto tables that show the maximum emission levels. The highest emissions are listed in a Radiated Emissions Summary table.

If no emissions can be found, the lowest harmonics of the EUT clocks within the bands of the standard are tuned into with the receiver. If no emissions are found, the noise floor will be entered into the table and noted. A minimum of six frequencies will be logged. Summary results will reflect only actual emissions from the EUT.

Radiated Test Setup and Procedure - contd.

The field intensity measurements are made using standard techniques with a spectrum analyzer or EMI receiver as the calibrated Field Intensity Meter (FIM). Preamplifiers and filters are used when required.

When using the Hewlett Packard Model 8568B Spectrum Analyzer as the FIM, the Analyzer is calibrated to read signal level in dBm. Where:

0 dBm (50 ohms) = 107 dBuV (50 ohms)

The signal level (dBuV) = indicated signal level (dBm) + 107 dB. To obtain the signal level in dBuV/m it is necessary to add the antenna factor in dB.

3.2.1 Example Of Typical Calculation Per 2.1033(b)6

Measurement Distance = 3 Meter

Rohde and Schwarz reading @ 60 MHz		49.0 dBuV
Antenna Factor	+7.5 dBuV	
Cable Loss	+2.0 dBuV	
Preamplifier	-25.5 dBuV	
	-16.0 dBuV	-16.0 dBuV
Field Strength dBuV/m at 3 Meter =		33.0 dBuV

The Following FCC limits for acceptance were used:

Limit 902 to 928 MHz (At the Carrier Frequency):
50,000 μV/M = 20 log (50,000) dBμV/M = 94.0 dBμV/M @ 3 Meters

Limit 88 to 216 MHz (Not at the Carrier Frequency):
150 μV/M = 20 log (150) dBμV/M = 43.5 dBμV/M @ 3 Meters

Limit 30 to 88 MHz:
100 μV/M = 20 log (100) dBμV/M = 40.0 dBμV/M @ 3 Meters

Limit >960 MHz:

500μV/M = 20 log (500) dBμV/M = 54.0 dBμV/M @ 3 Meters

3.2.2 Fundamental Field Strength

Measurements of radiated emission data were taken at low, mid and high frequencies of tuning range. The test frequencies were 907.204 MHz, 915.002 MHz, and 927.901 MHz.

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per FCC part 15, Subpart C (15.249 (a)) at 3 meters

Remtron	EUT Low Power Transmitter (903.0 MHz to 927.0 MHz) 21T20

Freq. (MHz)	Meas'd (dBuV)	Amp Factors (dB)	Cable Factors (dB)	Antenna Factors (dB)	Total Factors (dB)	Corrected signal (dBuV/m)	Limit (dBuV/m)	Delta (dB)
906.60	94.4	27.3	-8.2	26.0	-9.5	**84.9**	94.0	**-9.1**
915.00	92.7	27.3	-11.2	26.1	-12.4	**80.3**	94.0	**-13.7**
927.90	93.5	27.2	-11.1	26.1	-12.2	**81.3**	94.0	**-12.7**

- Reference Appendix A for all data taken.
- Data represents maximized EUT and antenna positioning..

3.2.3 **Harmonic Emissions**

Measurements of radiated emission data were taken at low, mid and high end of the 902 to 928 MHz band. The test frequencies were: 907 MHz, 915 MHz, and 927 MHz.

Per FCC part 15, Subpart C (15.249 (c)) at 3 meters

Remtron EUT 21T20 :Low Power Transmitter Tuned to 907.202 MHz								
Freq. (MHz)	Meas'd (dBuV)	Amp Factors (dB)	Duty & Cable Factors (dB)	Antenna Factors (dB)	Total Factors (dB)	Corrected signal (dBuV/m)	Limit (dBuV/m)	Delta (dB)
3628.83	51.1	25.9	-9.2	30.4	-4.7	**46.3**	54.0	**-7.7**
1814.54	54.2	24.9	-13.6	27.3	-11.1	**43.1**	54.0	**-10.9**
3628.83	47.9	25.9	-12.2	30.4	-7.7	**40.1**	54.0	**-13.9**
1814.54	49.4	24.9	-13.6	27.3	-11.1	**38.3**	54.0	**-15.7**
2721.57	44.8	25.2	-12.9	29.6	-8.6	**36.2**	54.0	**-17.8**
2721.57	44.6	25.2	-12.9	29.6	-8.6	**36.0**	54.0	**-18.0**
Remtron EUT 21T20Low Power Transmitter Tuned to 915.003 MHz								
3660.09	54.4	25.9	-12.2	30.5	-7.6	**46.7**	54.0	**-7.3**
2744.94	52.9	25.2	-12.9	29.6	-8.5	**44.3**	54.0	**-9.7**
1829.93	52.9	24.9	-13.6	27.4	-11.0	**41.9**	54.0	**-12.1**
4575.23	44.6	27.1	-11.1	32.5	-5.8	**38.8**	54.0	**-15.2**
5490.01	40.2	27.2	-11.0	34.0	-4.2	**35.9**	54.0	**-18.1**
Remtron EUT 21T20Low Power Transmitter Tuned to 927.904 MHz								
3711.77	52.5	26.0	-12.1	30.7	-7.5	**45.0**	54.0	**-9.0**
2783.80	52.4	25.3	-12.9	29.8	-8.4	**44.0**	54.0	**-10.0**
4639.76	45.2	27.1	-11.1	32.7	-5.6	**39.6**	54.0	**-14.4**
1855.82	50.4	24.8	-13.6	27.6	-10.8	**39.6**	54.0	**-14.4**

- Six highest frequencies relative to the Limit.
- Reference Appendix A for all data taken.

3.2.4 Spurious Emissions not associated with fundamental

No emission not associated with the fundamental were found.

3.2.5 **Emissions at Band Edges**.

To determine if the transmitter would comply with 15.209 General limit when tuned to a frequency at the band edge the following was performed.

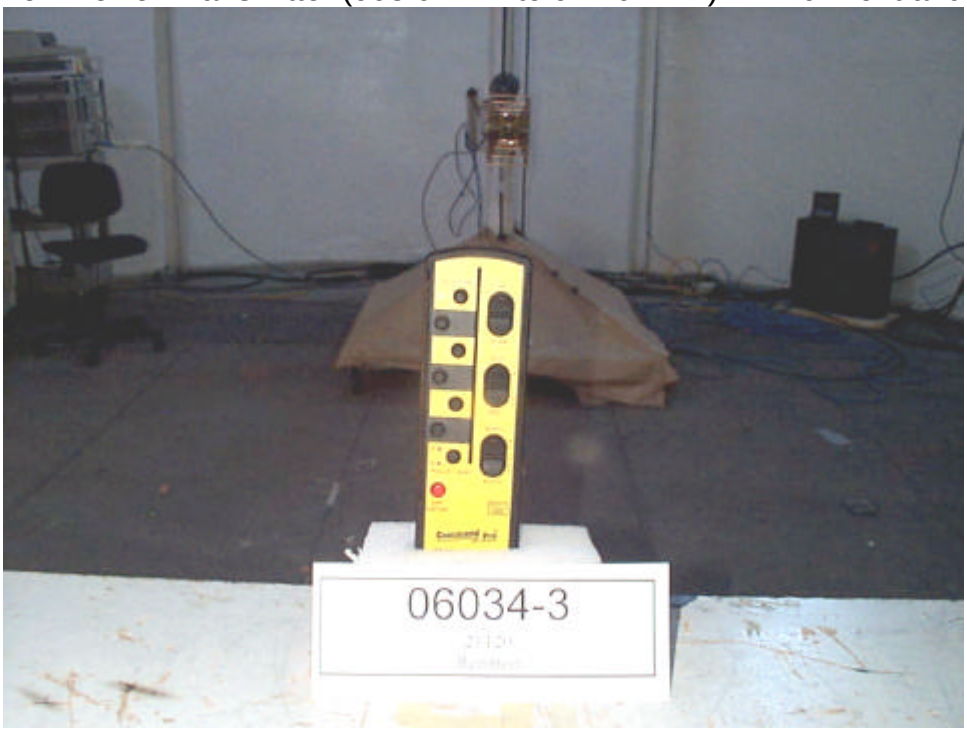
At any tuned to frequency of transmitter emission measurements were made by tuning Receiver with CISPR QP function to the Low & high side of the frequency to the point at which the emission was equal to the general Limit stated in 15.209. The resultant information is used to Limit the Transmitter tuning range at the bandedges.

Frequency: 915.003 Resolution Bandwidth: 120 KHz
Detector: QP

Center Frequency…….915.003
High end complied with 15.209 +367 KHz
Low end complied with 15.209 –359 KHz
Refer to data taken in Appendix.

3.2.6 Photograph of Radiated Test Setup - per 2.1033(b)(7)

Low Power Transmitter (903.0 MHz to 927.0 MHz) 21T20 Front and Rear View



PDF File. See the attachment that was electronically submitted.

4. LABELING REQUIREMENTS - PER 2.1033(B)(7)

Label will be constructed of 0.02 inch plastic attached as shown on the equipment with permanent adhesive.

All information on the label will be etched or screened. All methods will exceed the expected lifetime of the equipment.

The label will be large enough to allow all information to be readily legible.

4.1 Additional Label Required

This device complies with Part 15 of the FCC Rules. Operation is subject to the following tow conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Shown above is a copy of the label with the Part 15.19 Compliance Statement, Location of required information is checked “below”.

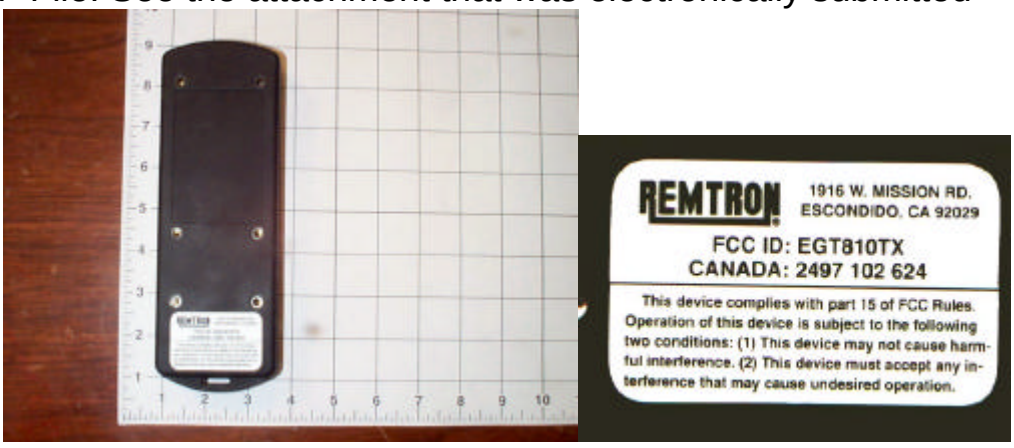
☐ The label will be placed in a conspicuous location on the device.

☐ The device is too small for a compliance label. Therefore the label will be placed in a prominent location in the Instruction Manual or other information supplied to the user.

☐ The device is too small for a compliance label. The label will be placed on the container in which the device will be marketed.

4.2 Photograph of Label Placement and Contents

PDF File. See the attachment that was electronically submitted



5. SCHEMATIC DIAGRAMS

PDF File. See the attachment that was electronically submitted.

6. OWNERS MANUAL

PDF File. See the attachment that was electronically submitted.

7. APPENDIX SECTION

7.1 APPENDIX A: TEST DATA

1.0 GHz to 10.0 GHz Emissions

Using an HP8566B with the Quasi-peak detector bypassed, an HP low noise preamplifier, and a high frequency antenna, signals between 1.0 GHz and 10 GHz were analyzed. The Spectrum Analyzer settings were as follows:

Start Frequency..... 1.00 GHz
Stop Frequency..... 10.0 GHz
Resolution Bandwidth ..... 1 MHz
Video Bandwidth ..... 1 MHz
Sweep Time 20msec
Reference ..... 60.0 dBµV
RF Attenuation ..... 10 dB

There we no signals measured between 1.0 GHz and 10.0 GHz down to the Spectrum analyzer's noise floor. The following data were measured at the highest level of the analyzer's noise floor:

Emissions at Band Edges Data

Electronically submitted Attachment.

7.2 APPENDIX B: UNCERTAINTY TOLERANCE

UNCERTAINTY TOLERANCE

DNB Engineering's Utah Facility is within acceptable uncertainty tolerances per ANSI C63.4 (1992) sections 5.4.6.1 and 5.4.6.2 as well as CISPR 16-1(1993) Annex M, section M.2.

ANSI C63.4 (1992)

5.4.6.1 Site Attenuation. A measurement site shall be considered acceptable for radiated electromagnetic field measurements if the horizontal and vertical NSA derived from measurements, i.e., the "measured NSA," are within ±4 dB of the theoretical NSA (5.4.6.3) for an ideal site.

5.4.6.1 NSA Tolerance. The ±4 dB tolerance in 5.4.6.1 includes instrumentation calibration errors, measurement technique errors, and errors due to site anomalies. These errors are analyzed in ANSI C63.6-1988 [3], wherein it is shown that the performance of a well-built site contributes only 1 dB of the total allowable tolerance.

CISPR 16-1 (1993)

M.2 Error analysis

. . . The total estimated errors are the basis for the ±4 dB site acceptability criterion consisting of approximately 3 dB measurement uncertainty and an additional allowable 1 dB for site imperfections.

7.3 APPENDIX C: TEST SITE CERTIFICATION, CHALK CREEK EMI SITE - per 2.948(a)

SITE CHARACTERISTICS, CHALK CREEK EMI TEST SITE

General:

The DNB Engineering test facility is located in Chalk Creek Canyon near Coalville, Utah. Site characteristics were measured according to the procedures outlined in ANSI C63.4 (1992) "Characteristics of Open Field Test Site". The results of these characterizations indicate that the Chalk Creek site is an outstanding facility to perform accurate and repeatable EMI tests.

This facility has been FCC approved to perform class B certification testing since January, 1986. In October of 1996, according to the FCC requirement to re-apply every three years, the facility was recertified. Certification was granted for the 3, 10, and 30 meter positions for both ranges. Facility approval was granted by the FCC Oct. 15, 1996 under file number 31040/PRV 1300F2.

In July of 1997, **The American Association for Laboratory Accreditation**, **A2LA**, granted accreditation to this facility. Standards for which accreditation was granted: RF Emissions: ANSI C63.4 - 1992, FCC Part 15 subpart B and C, FCC Part 18 CISPR 11, CISPR 13, CISPR 14, CISPR 22, EN 55011, EN 55013, EN 55014, EN 55022, EN 60601-1-2, EN 50081-1, EN 50081-2, IEC 601-1-2; RF Immunity: EN 50082-1, EN 50082-2, Radiated Susceptibility: EN 61000-4-3, ENV 50140, ENV 50204, IEC 1000-4-3, IEC 801-3, ESD: EN 61000-4-2, IEC 1000-4-2, IEC 801-2, EFT: EN 61000-4-4, IEC 1000-4-4, IEC 801-4, Surge: EN 61000-4-5, ENV 50142, IEC 1000-4-5, IEC 801-5, Injected RF Immunity: EN 61000-4-6, ENV 50141, IEC 1000-4-6, IEC 801-6

In September,1994 the National Certified Testing/Competent/ Notified Body for Norway and Scandinavian Countries (NEMKO) approved this test facility. DNB now offers the testing required for the CE Mark. **NEMKO EMC Laboratory Authorization No.: ELA 131**
Standards for which accreditation was granted: RF Emission: EN 55011, EN 55022, EN 50081-1, EN 50081-2; RF Immunity: EN 50082-1, EN 50082-2

In September, 1994, the New Zealand Ministry of Commerce certified that DNB ENGINEERING, INC. EMC facilities meet their laboratory approval criteria for EMC testing and placed DNB ENGINEERING on their list of Ministry-Approved laboratories.

In August, 1995, VCCI certified that the Chalk Creek facility was acceptable to perform EMI test according to VCCI requirements. The certificate number is 715.

Ambient Emissions

Ambient emission measurements were made to determine the level of the ambient emanations at the DNB test facility. The results indicate that all ambient signals are below the FCC, and VCCI radiated emission limits or that each can easily be identified as an ambient signal.

7.4 APPENDIX D: EMC INSTRUMENTATION AND MEASUREMENT EQUIPMENT

All test equipment are calibrated by a certified metrology facility using standards traceable to NIST.

Each instrument is calibrated annually or more frequently if required.

Radiated Emissions Intentional Radiators Worksheet

Project # 06034-3 Covering Run #s or dates: 11/30/99-12/8/99

Procedure Used: ☒ ANSI C63.4 (1992), ☐ EN 55022 (1994), ☐ CISPR 22 (1997), ☐ EN 55011 (1992), ☐ MP 5, ☐ Other

Radiated Limits Applied:
☐ EN 55022 (1994) With A1 and A2 (B), ☐ EN 50081-1, ☐ VCCI (B), ☐ EN 55022 (1998)(B), ☐ CNS 13438 (1997)(B)
☐ EN 55011 (1991) (B), ☐ CFR 47, 15.109(a) (B), ☐ CFR 47, 15.109(g), CISPR 22 Limits (B)
☐ EN 55022 (1994) With A1 and A2 (A), ☐ EN 50081-2, ☐ VCCI (A), ☐ EN 55022 (1998)(A), ☐ CNS 13438 (1997)(A)
☐ EN 55011 (1991) (A), ☐ CFR 47, 15.109(b), (A), ☐ CFR 47, 15.109(g),CISPR 22 (A)
☒ Other Radiated Emissions 47 CFR, Part 15 Subpart C

Input Power ☐ As shown on configuration table Section ???, ☐ Other

Location: Site ☒ 1, ☐ 2, Antenna Distance ☒ 3 m, ☐ 10 m, ☐ 10m in, ☐ 30 m,

Test Equipment used

Description	Manufacturer /Model	Asset	Serial	Calibration Due	Pre/Final Compliance	Notes
Amplifier	HP/8447D	067	2727A06182	26FEB00	☐/☐	
Amplifier	HP/8447D	065	2727A06180	26FEB00	☒/☒	
Amplifier	HP/8447D	069	2727A06191	18JUN00	☐/☐	
Amplifier	HP/8447D	066	2727A06181	26FEB00	☐/☐	
Amplifier	HP/8447D	068	2727A06184	26FEB00	☐/☐	
Amplifier	Miteq/AFS6-02002000-180-MP	U-162	428738		☐/☐	
Bicon Antenna	SCH/BBA9106	187	6	10AUG00	☐/☐	
Bicon Antenna	SCH/BBA9106	186	7	6AUG00	☒/☒	
Log P Antenna	SCH/UJALP9107	011	11	6AUG00	☒/☒	
Log P Antenna	SCH/UHAL09107	010	10	17AUG00	☐/☐	
Loop Antenna	R&S/HFH 2-Z2	173	880665/-40	4JUN00	☐/☐	
QP Adapter	HP/85650 A	002	2043A00277	28SEP00	☐/☐	
QP Adapter	HP/85650 A	001	2043A00124	19OCT00	☒/☐	
Receiver	R&S/ESVP	078	879807/048	4SEP00	☐/☒	
Receiver	R&S/ESVP	083	882402/005	02NOV00	☐/☐	
RF Preselector	85685A	070	2724A00659	18OCT00	☒/☐	
Spectrum Analyzer	HP/8568B	003A	17221A00113	18OCT00	☒/☐	
Spectrum Analyzer	HP/8566B	138A	2421A00516	18AUG00	☐/☐	
					☐/☐	
					☐/☐	
					☐/☐	

Photographs: ☒ Showing arrangement for maximum emission Number of photographs taken:

Deviation from procedures or limits as checked above:

☐ Deviation approved by applicant and DNB

Modifications to EUT to gain compliance: :

Attachments: ☐ Signed table of frequencies ☐ Worksheet page 2(used only if more information is required.)

Temperature: 18 °C | Humidity: 20 % | Barometric: 829 mbar

Other Notes:

DNB Engineering, Inc	436-336-4433	Report Page # ????
1100 E. Chalk Creek Rd.	435-336-4436	Worksheet page # 1
Coalville, UT 84017	In Utah 800-887-4433	RE (12NOV99)

7.5 APPENDIX E: INFORMATION SUPPLIED TO APPLICANT.

INFORMATION PERTAINING TO EQUIPMENT MANUFACTURED AFTER COMPLIANCE TESTING

It is prudent that manufacturers have an established Quality Assurance program to spot check their products on a periodic basis, either based upon time or quantities produced. Obviously, a change in the engineering design should be sufficient justification for a re-test.

The Quality assurance test need not be formal Verification or Certification such as required during the initial production of the product. However, it should be sufficient in scope to assure that the EMI characteristics of the product have not changed to the degree that the product exceeds the FCC limits. If a new model of a product is produced, it must undergo full Verification or Certification testing and, in case of Certification, be filed with the FCC.

It is expected that the FCC will place greater emphasis and resources in spot checking commercially available products. If a product is found not to be compliant with the Limits specified in Part 15, Subpart B. the manufacturer will be subject to the appropriate penalties imposed by the Commission. The initial Certification or Verification is sufficient to justify initial production. The additional quality assurance testing performed is the manufacturer's responsibility to assure continued compliance.