Engineering Exhibit in Support of Certification FCC Form 731

for the

Digital Base Station Transmitter in 700MHz band

FCC ID: EOTBDP3-T881

Trade Name: Dataradio P3

June 19th , 2004

AFFIDAVIT

The technical data included in this report has been accumulated through tests that were performed by me or by engineers under my direction. To the best of my knowledge, all of the data is true and correct.

Norman D Pearl
Vice-president Engineering, Dataradio Inc.

Dataradio Inc.
Montreal, Canada

ENGINEERING STATEMENT
OF CONSTANTIN PINTILEI

The application consisting of the attached engineering exhibit and associated FCC form 731 has been prepared in support of a request for Certification. Dataradio Inc requests certification for the 700 MHz 5W base station transmitter forming part of the data base station DATARADIO P3. The modulation source of the base station is a model P3 - Basestation Data Link Controller (BDLC). The data base station will serve the fleet of mobile Gemini G3 approved under EOTGPD7, also manufactured by Dataradio Inc. The transmitter will operate in the frequency range 762-773 MHz, split into two bands of 762-764MHz and 767-773 MHz. Dataradio, Canada, purchases the OEM transmitter from Tait Electronics Inc, under part# T881-10 (see page 6 for part# description). Dataradio will modify it to fit digital transmission requirements of the P3 BDLC and perform final assembly of the Paragon P3 basestation. The transmitter along with the other components of the base station (receivers, BDLC, power supplies) will be identified by the Dataradio part number BDP3- 87S-RBWWWPM and marketed under the Model name P3. The transmitter based on T881 module will be identified by the FCC number EOTBDP3-T881. The transmitter operates pursuant to Part(s) 2,90 and 27 of the Rules and Regulations. The T881-10 Transmitter's RF power is continuously variable from 1-5 watts and its nominal power is 5W.

EXISTING CONDITIONS

These Certification measurements were obtained using a production transmitter modulated by a prototype modem. The transceiver is designed to operate on frequencies ranging from 762.000 MHz to 773.000 MHz. The frequency tolerance of the transceiver is .0001% or 1.0 parts per million, controlled by a temperature compensated crystal oscillator (TCXO) operating at 12.8 MHz.

PROPOSED CONDITIONS

It is proposed to accept the request for the Dataradio P3 762-773 MHz 5W base station transmitter for operation in the band of frequencies previously outlined. The applicant anticipates marketing the device for use in wireless transmission of data.

PERFORMANCE MEASUREMENTS

All measurements were conducted in accordance with the code 47 CFR Section 2.1041and 2.1049 rev.2-167, Mar 15,2004, Section 90 Subpart R (90.521 to 90.555) rev 90-66 Sep 15, 2004 and Section 27 Subpart C rev Oct 1, 2001. Equipment performance measurements were made in the engineering laboratory of either Dataradio Inc, Montreal, Canada or subcontracted to Aprel Laboratories on the FCC certified Open Area Test Site at Nepean, Ontario, Canada. All measurements were made under my direction. The performance measurements were made between May 1st, 2004 and June 3rd, 2004

CONCLUSION

Given the results of the measurements contained herein, the applicant requests that Certification be granted for the Dataradio P3, 762-773 MHz 5W digital base station transmitter as tested for data communications.

06/08/2004

Constantin Pintilei, Eng
R&D Test Engineer, Dataradio Inc.

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QUALIFICATIONS OF ENGINEERING PERSONNEL

NAME:	**Norman Pearl**
TITLE:	Vice-president Engineering
TECHNICAL EDUCATION:	Bachelor of Engineering (Electrical) (1979) McGill University, Montreal, Canada.
TECHNICAL EXPERIENCE:	Professional engineer since 1979 27 Years experience in radio communications

NAME:	**Constantin Pintilei**
TITLE:	R&D Test Engineer
TECHNICAL EDUCATION:	Bachelor of Science Degree in Electrical Engineering, specialization Radioelectronic (1993) Technical University of Iasi, Romania.
TECHNICAL EXPERIENCE:	Professional Engineer since 2001 10 Years experience in radio frequency measurements.

GENERAL INFORMATION ABOUT THE GRANTEE AND CERTIFICATED EQUIPMENT -2.1043 (b)(2)
(as per Rule Part Number: 2.1033 (c).(1),(2),(5),(6),(7))

APPLICANT	Dataradio Inc., 5500 Royalmount Ave, suite 200, Town of Mount Royal, Quebec, Canada, H4P 1H7
MANUFACTURER:	DATARADIO Inc., Town of Mount Royal, Quebec, Canada, H4P 1H7 based on OEM - Exciter manufactured by Tait,
MODEL NUMBER:	Dataradio Paragon 3 based on Tait's T881-10-0020 OEM 5W transmitter
PART NUMBER:	BDP3-87S-xx005xX
SERIAL NUMBER (S):	Exciter –s/n 13012190 modulation source: BDLC P3 prototype unit #29; pcb# 280-03434-00B
FCC ID NUMBER:	EOTBDP3-T881
FCC RULES AND REGS:	FCC Part (s): 90 subpart R, 27 subpart C
FREQUENCY RANGE:	762.000 MHz - 776.000 MHz (762-764MHz as per FCC part 27.53(d) and 767-773MHz as per FCC part 90.531 in bands dedicated for 50kHz channels)
MAXIMUM POWER RATING:	5 Watts, (5 Watts Nominal, 1-5 watts adjustable).
NUMBER OF CHANNELS:	single channel selectable from a list of 128 Channels
INPUT IMPEDANCE:	50 ohms, Nominal
VOLTAGE REQUIREMENTS:	10.9-16.3VDC (13.8 VDC Nominal)

EQUIPMENT IDENTIFICATION:

TRADE NAME	**DESCRIPTION**	**DRI PART NUMBER/Details**
Dataradio Paragon 3	wireless digital base station	BDP3- 87S-RBWWWPM
BDP3	base station PowerPC controller and modem, RF-shelf mount	280-03434-00x
87S- 005	T881 Transmitter 762-776 MHz, 5W	T881-10
RBWWWPM	software/hardware characteristics and options	R-frequency range : 1⇔746-776MHz Tx B-station bandwidth: 0⇔25kHz, 1⇔12.5kHz, 7⇔50kHz WWW- RF power (005 –5W, TBD) P –power source 0- no power supply (existent 13.8V DC) 1- Heavy Duty 120VAC supply M- Modulation type and network protocol A- 128kbps, P3 NextGen

OTHER DATA- Rule Part Number: 2.1033 (c), (3), (8), (9), (10), (11), (12), (13), (15), (16)

INSTRUCTION BOOK
RULE PART NUMBER: 2.1033 (c) (3)
Annex G. The attached Service Manual for the Paragon 3 base station/transmitter is a preliminary version .

DC VOLTAGES AND CURRENTS INTO FINAL AMPLIFIER
RULE PART NUMBER 2.1033(c).(8)
refer to the Transmitted Rated Output Power test report in Annex A part A1

TRANSMITTER TUNE UP PROCEDURE
RULE PART NUMBER: 2.1033 c (9)
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DESCRIPTION OF CIRCUITRY
RULE PART NUMBER: 2.1033 (c)(10)
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SCHEMATICS
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TRANSISTOR, DIODE, AND IC FUNCTIONS
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RULE PART NUMBER: 2.1033 c (11)
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DIGITAL MODULATION TECHNIQUES
RULE PART NUMBER 2.1033(c).(13)
refer to Test results section Annex A, part A0, page2

TRANSMITTER TESTS
RULE PART NUMBER: 2.1033 (c)(14) and also 90 subpart R, 27 subpart C

Annex A, test reports parts A1 to A8

Data addressing RULE PART NUMBER 2.1033(c) 15, 16: this unit is not designed for the mentioned purposes