Engineering Exhibit in Support of Certification FCC Form 731

for the

Mobile Data Platform Transceiver (900 MHz MDP)

With the

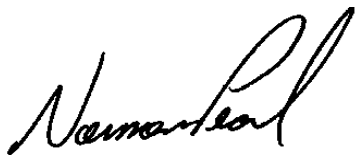
Data Radio Gemini Modem

FCC ID: EOTGPD9
Trade Name: GEMINI/PD+

August 15th, 2002

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. Certification is requested for the radio modem Gemini/PD+ comprised of the. (DRL) Mobile Data Platform (MDP) 900 MHz Transceiver manufactured by Dataradio COR Ltd with the Gemini GCU Modem manufactured by Dataradio Inc. The modem/transceiver will operate in the frequency range 896-902 MHz in Transmit and 935-941 MHz in Receive. Dataradio, Canada, will buy the MDP from DRL, Waseca, with the part# 242-609C-MRB (see page 6 for part# description). Dataradio will install the modem and perform final assembly. Along with the modem a GPS receiver option is also available. The MDP Transceiver mated with the Gemini Modem and GPS receiver will be identified by the Dataradio part number GPDE-6095-1RB GF and marketed under the Model name GEMINI/PD+. The Transceiver/Modem/GPS will be identified by the FCC number EOTGPD9. The transceiver operates pursuant to Part(s) 90 of the Rules and Regulations. The MDP Transceiver RF power is continuously variable from 10-27 watts and its nominal power is 25W.

EXISTING CONDITIONS

The units utilized for these Certification measurements were obtained from prototypes. The transceiver is designed to operate on frequencies ranging from 896.000 MHz to 902.000 MHz. The frequency tolerance of the transceiver is .00015% or 1.5 parts per million. The frequency stability of the transceiver is controlled by a temperature compensated crystal oscillator (TCXO) operating at 17.5 MHz.

PROPOSED CONDITIONS

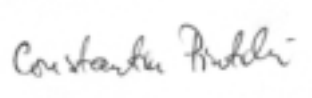
It is proposed to accept the request for the GEMINI/PD+, 896-902 MHz Transceiver/Modem/GPS for operation in the band of frequencies previously outlined. The applicant anticipates marketing the device for use in wireless transmission of data.

PERFORMANCE MEASUREMENTS

All measurements for Occupied Bandwidth and mask compliance as per 2.1043 (b)(2) were conducted in accordance with the Rules and Regulations Section 2.1041and 2.1049 of Rules Service Co rev.2-158, Mar 15,2001. Equipment performance measurements were made in the engineering laboratory of either Dataradio Inc, Montreal, Canada or Dataradio COR LTD, Waseca, Minnesota, on the FCC certified Open Area Test Site at the Transcrypt International / E.F. Johnson Radio Products located at 299 Johnson Avenue in Waseca, Minnesota. All measurements were made under my direction. The performance measurements were made between July 1st , 2002 and July 31st , 2002

CONCLUSION

Given the results of the measurements contained herein, the applicant requests that Certification be granted for the GPDE-6095-1RBGF, 896-902 MHz Transceiver/Modem/GPS as tested for data communications.



07/31/2002

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

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A4- Frequency Stability vs Variation in Ambient temperature

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Annex B (-442): Transceiver Theory of Operation, Synthesizer Block Diagram, Transceiver Block Diagram, Modem Theory of Operation, Modem Block Diagram

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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 25 Years experience in radio communications
NAME:	**Chris Ludewig**
TITLE:	Engineering Manager (Dataradio COR Ltd.)
TECHNICAL EDUCATION:	Bachelor of Science in Electrical and Electronic Engineering (1984) From North Dakota State University
TECHNICAL EXPERIENCE:	17 years experience in design of portable and mobile radio equipment
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 8 Years experience in radio frequency measurements.
NAME:	**Allen Frederick**
TITLE:	Electrical Engineer III (Dataradio COR Ltd.)
TECHNICAL EDUCATION:	Bachelor of Science Degree in Electronic Engineering Technology(1998) from Mankato State University.
TECHNICAL EXPERIENCE:	4 years experience in radio frequency communications equipment design
NAME:	**Sébastien Lafrance**
TITLE:	R&D Technician
TECHNICAL EDUCATION:	College Diploma in Electronics (1996) from Technical College Lionel-Groulx of Ste-Thérèse, Quebec, Canada
TECHNICAL EXPERIENCE:	3 years experience in RF measurements, member of R&D Validation team of Dataradio Inc

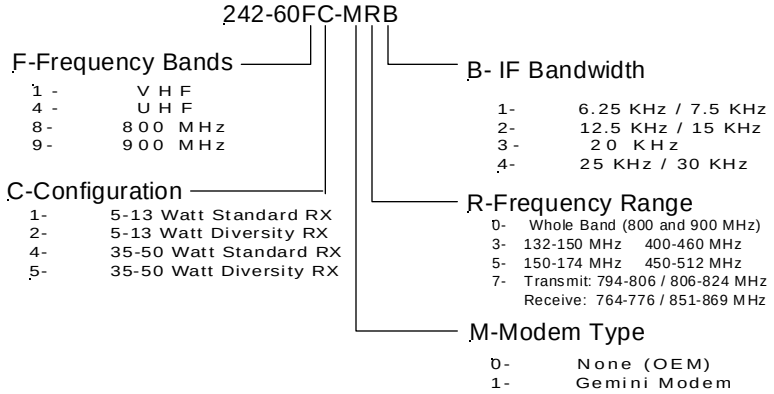
GENERAL INFORMATION ABOUT THE GRANTEE AND CERTIFICATED EQUIPMENT -2.1043 (b)(2)
(as per Rule Part Number: 2.1033 (c).(1),(2),(5),(6),(7))

APPLICANT	Dataradio Inc., 5500 Royalmount Ave, suite 200, Town of Mount Royal, Quebec, Canada, H4P 1H7
MANUFACTURER:	Dataradio COR Ltd., Waseca, MN 56093 (MDP Transceiver) DATARADIO Inc., Town of Mount Royal, Quebec, Canada, H4P 1H7 (Gemini- final assembly)
MODEL NUMBER:	GEMINI/PD+
PART NUMBER:	GPDE-6095-11200
SERIAL NUMBER (S):	215-03322-105 Gemini modem firmware v3.15.(beta3), DSP v4.10 242-6095- 00005- 102 production MDP transceiver
FCC ID NUMBER:	EOTGPD9
FCC RULES AND REGS:	FCC Part (s) 90, 90.603(a),(b)
FREQUENCY RANGE:	896.000 MHz - 902.000 MHz (896-902 Tx/935-941 Rx MHz Bands)
MAXIMUM POWER RATING:	27 Watts, (25 Watts Nominal 10-27 watts adjustable).
NUMBER OF CHANNELS:	16 Channel Modem
INPUT IMPEDANCE:	50 ohms, Nominal
VOLTAGE REQUIREMENTS:	10.9-16.3VDC (13.6 VDC Nominal)

EQUIPMENT IDENTIFICATION:

TRADE NAME	DESCRIPTION	DRI PART NUMBER
Gemini/PD+	wireless modem	GPDE- 609C-1RBGF
MDP6000	896-902TX/935-941RX MHz XCVR	242-609C-MRB
Gemini	Modem	050-03322-00x

DRL Part Number System for MDP: Gemini/PD+ catalog number adds G (0,1)- GPS option and F (0-F)-modem firmware



OTHER DATA- Rule Part Number: 2.1033 (c).(3),(8),(9),(10),(11),(12),(13),(15),(16), 2.1091, 15.209

INSTRUCTION BOOK
RULE PART NUMBER: 2.1033 (c) (3)
Annex G. The attached Service Manual for the GEMINI/PD+ Transceiver/Modem/GPS 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)
Annex D

DESCRIPTION OF CIRCUITRY
RULE PART NUMBER: 2.1033 (c)(10)
Annex B

SCHEMATICS
RULE PART NUMBER : 2.1033 (c)(10)
Annex E

TRANSISTOR, DIODE, AND IC FUNCTIONS
RULE PART NUMBER: 2.1033 c (10)
Annex C

FCC LABEL:
RULE PART NUMBER: 2.1033 c (11)
Annex F, set F1

PHOTOGRAPHS:
RULE PART NUMBER: 2.1033 c (12)
Annex F, sets F2, F3

DIGITAL MODULATION TECHNIQUES
RULE PART NUMBER 2.1033(c).(13)
refer to Test results section Annex A, part A0, page3

TRANSMITTER TESTS
RULE PART NUMBER: 2.1033 (c)(14), 15.207, 15.209

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
Data addressing RULE PART NUMBER 2.1091(c) : this unit is not designed for the SMRS use (90.603(c)). Product is designed for users eligible under part 90 subpart C and/or 90.603(a) and (b) only.