Engineering Exhibit in Support of
Class II Permissive Change Request
FCC Form 731

for the

T881 Exciter module of Tait's T88x 900 MHz base station

modulated with

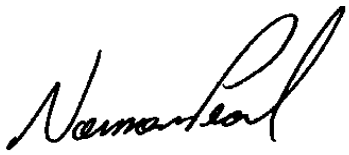
8 FSK digital modulation from Dataradio's Base Data Link Controller (BDLC)

FCC ID: EOTBDD4T881-3
Trade Name: Paragon/PD

January 7, 2003

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 a Class II Permissive Change for EOTBDD4T881-3. All changes involved fall under Class II Permissive Change types and they are entirely detailed within the current report.

The certificate EOTBDD4T881-3 has been granted to Dataradio Inc. following a change in ID request from CASTEL0045 for the T881-30 Exciter module of the T88M-XY (see page 6 for part# description) 900 MHz base station manufactured by Tait Electronics Ltd. Dataradio Inc. buys this base station and uses it to build Paragon/PD, a wireless data base station. A base station data link controller feeds the exciter in order to build a digital frequency modulation scheme. Dataradio Inc does the final assembly and markets the finished Paragon/PD unit. The last certificate EOTBDD4T881-3 was granted on 09/12/2002 having the following list of emission designators: 11K0F3E and 9K50, 10K1, 10K9, 9K75, 10K8 and 9K58F1D.

One Class II Permissive type of change is demonstrated with this filing. The change consists of the usage of a 8FSK digital FM modulations with three new rates. This requires two new emission designators: 10K5F1D and 9K42F1D and needs also 9K50F1D which is already granted. The deviation setting parameter changes along with the baud rate and the pulse-shaping equations in order to achieve the compliance with mask J. There are no hardware changes involved in either the radio or the modem/controller circuits. Also there are no changes in those modules of the firmware that control the transmitter.

EXISTING CONDITIONS

The unit utilized for these occupied bandwidth and mask-compliance measurements was a production sample built from EOTBDD4T881-3 with its firmware used to create the modulation scheme. The deviation parameter was set less such that the frequency spectrum fitted within the requirements of Mask J. The Exciter operates on frequencies ranging from 890.000 MHz to 960.000 MHz. The frequency tolerance of the exciter is .00015% or 1.5 parts per million and the output power is 5W variable down to 1W as granted in EOTBDD4T881-3.

PROPOSED CONDITIONS

It is proposed to accept the Class II permissive change request for the EOTBDD4T881-3 certificate 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.2-154, Mar 15,2000. Equipment performance measurements were made in the engineering laboratory located at 5500 Royalmount ave, Montreal, Canada. All measurements were made and recorded by myself or under my direction. The performance measurements were made between Dec 14, 2002 and Jan 6,2003.

CONCLUSION

Given the results of the measurements contained herein, the applicant requests to be applied a Class II Permissive Change for the Certificate EOTBDD4T881-3 to add the two new emission designators : 10K5F1D and 9K42F1D to the existing list and to accept 9K50F1D as emission designator also for a 8FSK digital modulation .

01/06/03

Constantin Pintilei
R&D Test Engineer, Dataradio Inc.

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ANNEXES:

Annex A: Paragon /PD Instruction Manual

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:	**Constantin Pintilei**
TITLE:	R&D Test Engineer
TECHNICAL EDUCATION:	Bachelor of Science Degree in Electronic Engineering specialization Radiotechnique (1993) Technical University of Iasi, Romania
TECHNICAL EXPERIENCE:	Professional Engineer since 2001 8 Years experience in radio frequency measurements.

Class II Permissive Change Information - Rule part 2.1043 (b)(2)

The certificate EOTBDD4T881 has been granted to Dataradio Inc. following an ID change request from CASTEL0045. The original CASTEL0045 was granted to Tait Electronics Ltd. for its T881-30 Exciter module. It belongs to the T88M-XY (check at the page bottom for part# description) 900 MHz base station. Dataradio Inc. buys this base station and uses it to build Paragon/PD, a base station for wireless data networks. In order to market it under Dataradio logo the change in ID has been asked.

The emission designator list of the certificate has seven values as follows:

- 11K0F3E and 9K50F1D inherited on 07/03/2001 from the original certificate CASTEL0045 following the ID change
- 10K1, 10K9, 9K75, 10K8 and 9K58F1D for respectively 8.0kbps and 9.6kbps DGMSK and 14.4kpbs, 16.0 and 19.2 kbps 4-FSK SRRC digital modulation granted on 09/12/2002 following a Class II permissive change request

The current Class II permissive change request asks that following digital modulation schemes comprised of data rates, pulse shaping and deviation index

data rate	Symbol rate	Pulse- shaping filter equation	Deviation	Occupied Bandwidth	Emission designator
21600 bps	7200 bauds	xRC4FSK, 8FSK	± 3.76 KHz	10420Hz	10K5F1D
24000 bps	8000 bauds	xRC4FSK, 8FSK	± 3.37 KHz	9417Hz	9K42F1D
28800 bps	9600 bauds	xRC4FSK, 8FSK	± 3.14 KHz	9500Hz	9K50F1D

are allowed for use in 890-960MHz band. The resulting emission designators may exceed or overlap the existent one (9K50F1D). The compliance is demonstrated for mask 90.210(J) for all the new modulation schemes proposed.

All modulator source signal-related issues as per 2.1033 (c) (4) are explained below on page 9. This Class II permissive change involves the code of the DSP-driven modulation source only, with no change occurring elsewhere in the circuitry.

The characteristics affected are:

Type of emission and Emission designators list - part 2.1033 (c)(4), 90.209
Occupied bandwidth and mask compliance requirement - part 2.1049,90.210(j)

They are entirely documented with the current report.

Part Number of the Tait 800 MHz base station T88M-XY

M	Module Type	X	Freq Range	Y	Channel Bandwidth
1	Exciter (5W)	1	800-880 MHz	0	25 kHz
5	Receiver	2	850-910 MHz	5	12.5 kHz
9	Power Amplifier	3	890-960 MHz		

Part Number of the Paragon/PD 800 MHz data base station BDD4 -88XY PPPS

X	Freq Range	Y	Channel Bandwidth	PPP	Transmitted Power	S	Supply
1	800-880 MHz	0	25 KHz	005	5W	0	12VDC external
2	850-910 MHz	5	12.5 KHz	070	70W	2	dual 120V AC
3	890-960 MHz						

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 and GRANTEE	Dataradio Inc., 5500 Royalmount Ave, suite 200, Town of Mount Royal, Quebec, Canada, H4P 1H7
MANUFACTURER:	Tait Electronics Ltd., Burnside Christchurch 5, New Zealand (T88x 900 MHz Base station) DATARADIO Inc., Town of Mount Royal, Quebec, Canada, H4P 1H7 (D212 BDLC and Paragon/PD- final assembly)
MODEL NUMBER:	Paragon/PD
PART NUMBER:	BDD4-88XY PPPS
SERIAL NUMBER (S):	D212 address 1.0 - 8-level FSK BDLC T881-30-0200 s.n 13017540 Exciter module
FCC ID NUMBER:	EOTBDD4T881-3
FCC RULES AND REGS:	FCC Part (s) 90.210
FREQUENCY RANGE:	890 MHz -960 MHz as per EOTBDD4T881-3 certificate
MAXIMUM POWER RATING:	5Watts as per EOTBDD4T881-3 certificate. The output power is adjustable down to 1W.
NUMBER OF CHANNELS:	1 Channel selectable from 256 channels as per Tait's manual
OUTPUT IMPEDANCE:	50 ohms, Nominal
VOLTAGE REQUIREMENTS:	10.9-16.3VDC (13.6 VDC Nominal)

EQUIPMENT IDENTIFICATION:

TRADE NAME	DESCRIPTION	DRI PART NUMBER
T88x-30	900 MHz Base Station	T88M-XY
D212	Base Data Link Controller (BDLC)	050-03330-00x
Paragon/PD	Assembly	BDD4-88XY PPPS

Data And Characteristics Not Affected By The Change-Rule Part Number: 2.1033 (c)(8),(9),(10),(11),(12),(13),(15),(16)

DC Voltages And Currents Into Final Amplifier (T881)	2.1033(c).(8)
Transmitter Tune Up Procedure	2.1033 (c) (9)
Description Of Circuitry,Schematics and Transistor, Diode, and IC Functions	2.1033 (C)(10)
FCC Label	2.1033 (c) (11)
Internal/External Photographs	2.1033 (c) (12)
Data addressing Rule Part Number	2.1033(c) (15),(16): this unit is not designed for the mentioned purposes
MPE limits compliance	2.1091
Test results not affected by the change	2.1033(c)(14), 2.1041

Test data according to:
Part 2: 2.1046, 2.1051, 2.1053, and 2.1055
Part 90, Subpart I: 90.213
as follows:

Transmitter Rated Power Output	2.1046
Transmitter Spurious and Harmonic Outputs	2.1051
Field Strength of Spurious Radiation	2.1053
Frequency Stability and Frequency Tolerance	2.1055,90.213

Data And Characteristics Affected By The Change - Rule Part Number: 2.1033(c) (3),(4),(13),(14)

INSTRUCTION BOOK 2.1033 (c) (3)
Annex A . The attached Technical Manual for the Paragon/PD data base station is a preliminary version.

TYPE OF EMISSION: 2.1033(c)(4)

For Class II Permissive Change	(7200baud, 8 FSK)	**10K5F1D**
	(8000baud, 8 FSK)	**9K42F1D**
	(9600baud, 8 FSK)	**9K50F1D**
Previously granted for EOTBDD4T881-3	voice	**11K0F3E**
	data (9600 baud)	**9K50F1D**
	data (8000baud, 2FSK)	**10K1F1D**
	(9600baud, 2 FSK)	**10K8F1D**
	(7200baud, 4 FSK)	**10K9F1D**
	(8000baud, 4 FSK)	**9K75F1D**
	(9600baud, 4 FSK)	**9K58F1D**

DIGITAL MODULATION TECHNIQUES 2.1033 (C)(13)

The D212 Basestation Data Link Controller supports DBA (Dynamic Bandwidth Allocation), a Dataradio proprietary protocol. DBA is a 5:1 TDMA protocol optimized for public utilities and public safety markets. The data stream generated by the protocol controller is converted into digital binary or multi-level frequency shift keying modulating signal by a modem block built upon a CPU and a DSP processor. This digital modulation scheme is produced by the main CPU in conjunction with the DSP processor as follows:

The main CPU processes incoming binary data, applying Forward Error Correction (FEC), interleaving and scrambling, from it, generates an NRZ signal that is fed to the DSP processor for encoding and pulse shaping. The digital processing computes the binary differential and maps the binary stream into a symbol stream. The binary stream is processed either as stream of bits or stream of clusters of multiple-bits as required by binary or multiple level FSK modulation type. For the 8FSK the cluster has 3 bits. The number of levels of the digital symbol stream corresponds to the numbers of levels of NFSK modulation.

The digital symbol signal has further applied a pulse shaping filter through the DSP. The pulse-shaping filter is in Raised Cosine family and the appropriate equation designs the filter characteristic together with the 3dB cutoff frequency.

The pulse-shaped signal has further applied a amplification constant which adjusts the transmitter deviation level and then is fed to the CODEC for digital to analog conversion. The resulting waveshape applied to the FM modulator will then produce a compact RF spectrum, when using proper frequency deviation, to fit inside the restrictive masks inherent to the intended channel bandwidth.

Modulation Characteristic Part 2.1047 (d), 90.209 (b), 90.210(j): Other types of equipment: this equipment is not provided with hardware audio low-pass filters, the filtering is entirely the result of DSP firmware. Hardware-wise, the digital input provided on the Pin 1 of SK200 “micro match to paging board connector” is used for the digital modulation. For the purpose of a digital input the 0-ohm resistor R291 which connects the Audio Low Pass filter to the input of the FM modulator must be removed

TEST DATA Rule Part Number: 2.1033 (c)(14)

All applicable test data according to:
-Part 2: 2.1043 (b)(2), 2.1049
-Part 90, Subpart I: 90.209 and 90.210(j)
are provided in next section of this Engineering Report

The following reports have been generated for Class II Permissive Change request for EOTBDD4T881-3 Exciter module. Paragon/PD is comprised of the Tait Electronics Ltd. T88x-30 900 MHz Base station with the Dataradio Inc D212 Base Data Link Controller (BDLC). Dataradio's base station data link controller feed the T881 Exciter with digital modulation and controls all the modulation parameters. Dataradio Inc does final assembly and markets the Paragon/PD unit

Unless otherwise noted, all of the measurements were conducted following the procedures set forth in the TIA/EIA-603 rev A standards.

NAME OF TEST:
Transmitter Occupied Bandwidth

RULE PART NUMBER: 2.201, 2.202, 2.1033 c (14), 2.1049 (h), 2.1041

Emission Designator Determination

Necessary Bandwidth Measurement (90.209.(b))

This Exciter uses digital modulation signals, passing through a DSP implemented low-pass filter to an FM modulator. The necessary bandwidth calculation for this type of modulation (SRRC8FSK) is not covered by paragraphs (1), (2) or (3) from 2.202(c), the result exceeding by far the real necessary bandwidth obtained through simulations or measurement.

Therefore, the approach outlined in (2.202(c)(4)) is applicable in this case.

The results of 99% Occupied Bandwidth measurement are:

Bit rate	Symbol rate	Filter equation	Deviation	Occupied Bandwidth	Emission designator
21600 bps	7200 bauds	xRC4FSK	± 3.14 KHz	10750Hz	10K9F1D
24000 bps	8000 bauds	xRC4FSK	± 3.37 KHz	9750Hz	9K75F1D
28800 bps	9600 bauds	xRC4FSK	± 3.76 KHz	9167Hz	9K58F1D

The measurement theory and set-up explanations follow.

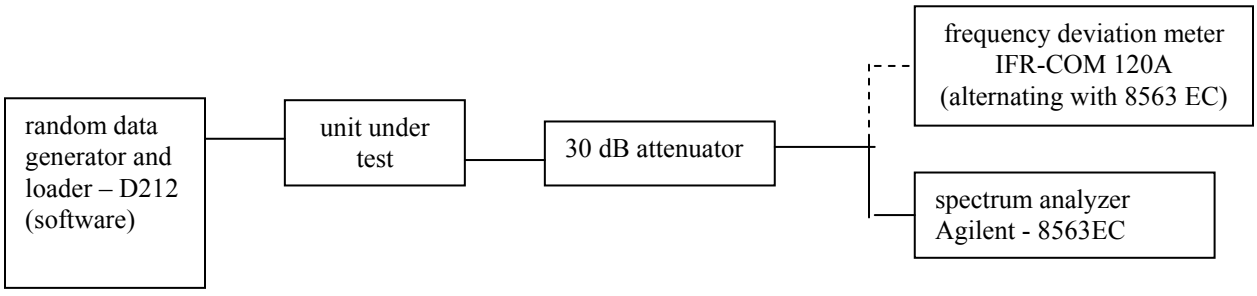
Occupied Bandwidth Measurement

The Occupied Bandwidth measurement option of the instrument (8563EC spectrum analyzer from Agilent) calculates and provides the values used above for the emission designator.

The percentage setting of the measurement has been set to 99% following the definition of the ***Occupied Bandwidth*** "the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission" (FCC 2.202)

The measurement has been performed during the tests for compliance with mask J, the resulting value was recorded as Occupied Bandwidth. When the values at minimum power level (1W) were different from those at maximum power level (5W), the largest one yielded the emission designator value.

The measurement set-up is:



NAME OF TEST: Transmitter Occupied Bandwidth
Paragon PD at 21600 Bps 4FSK
In Support of Emission Designator **10K5F1D**

RULE PART NUMBER: 2.201, 2.202, 2.1049 (h), 2.1041, 90.209 (b)(5), 90.210 (j)

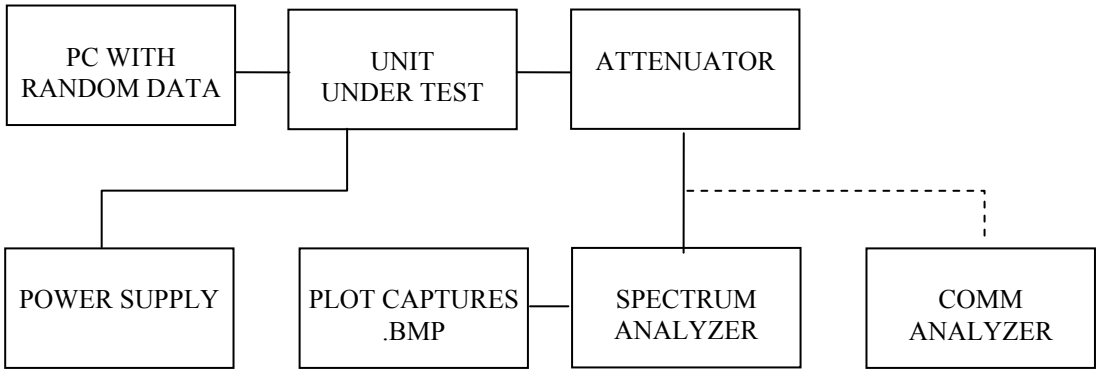
MINIMUM STANDARD: Mask J
Sidebands and Spurious [Rule 90.210 (j)]
Authorized Bandwidth = 13.6 kHz [Rule 90.209(b) (5)]

Fo to 2.5 kHz	Attenuation = 0 dB
>2.5 kHz to 6.25 kHz	Attenuation= 53*log(f_d KHz /2.5) dB
>6.25 kHz to 9.5kHz	Attenuation = 103 log (f_d/3.9)dB
>9.5kHz	lesser of 50 + 10*log(P) or 157 log (f_d/5.3) or 70dB
Corner Points:	
f_0 to 2.5 kHz	Attenuation = 0 dB
>2.5 kHz to 3.8 kHz	Attenuation= 0 dB to 10 dB
>3.8 kHz to 6.25 KHz	Attenuation = 10 dB to 21 dB
>6.25 kHz to 7.6 KHz	Attenuation = 21 dB to 30 dB
>7.6 kHz to 9.5 KHz	Attenuation = 30 dB to 40 dB
>9.5 kHz to 11.2 KHz	Attenuation = 40 dB to51 dB
>11.2 kHz to 12.3kHz	Attenuation = 51 dB to57 dB
>12.3kHz	Attenuation = minimum 57 dB (5W)

TEST RESULTS: Meets minimum standard (see data on the following pages)
TEST CONDITIONS: Standard Test Conditions, 25 C
TEST EQUIPMENT: Attenuator, BIRD Model / 100-A-MFN-30 / 30 dB / 50 Watt
DC Power Supply , Astron Model VS-20M
IFR COM-120B
Spectrum Analyzer, Model HP8563E
HP power meter model#E4418B
HP Benchlink -software for plot captures.

PERFORMED BY: Constantin Pintilei DATE: 01/03/2003

TEST SET-UP:



NAME OF TEST: Transmitter Occupied Bandwidth (Continued)
Paragon PD at 21600 bps 8FSK
In Support of Emission Designator **10K9F1D**

TX Data Test Pattern:

The random data generator function of the BDLC generates a 2047-long bit test sequence. This function is performed with a serial shift register and a exclusive OR two tap gate that implement the polynomial form $X^{10}+X^{8}+1$. The initial value of the register is 7FF.

After this, the data follow the digital modulation process described in the page 10 and the resulting base band signal feed the modulator's input of the Exciter.

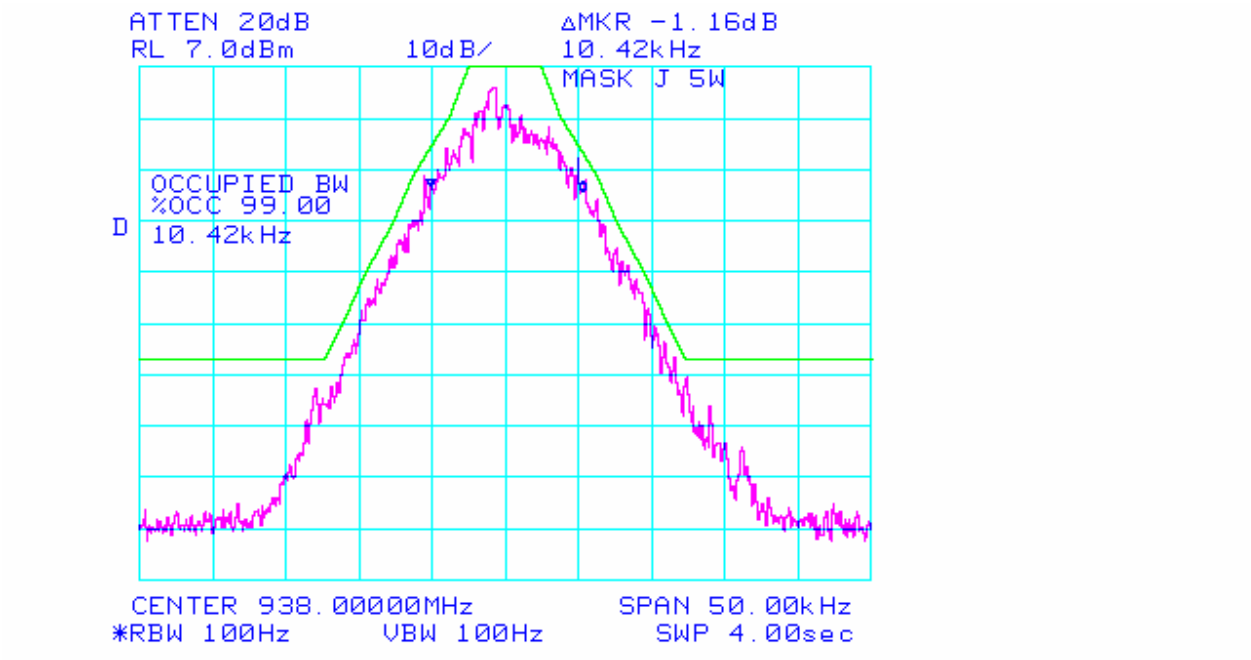
For the deviation measurements on the modulation analyzer an IF filter of 30KHz has been used.

NECESSARY BANDWIDTH (Bn) measurement
See Page 10 for emission designator determination.

The corresponding emission designator prefix for necessary bandwidth = **10K5**
The corresponding deviation for 14400 Bps is 3760 Hz
TEST DATA: Refer to the following graphs:

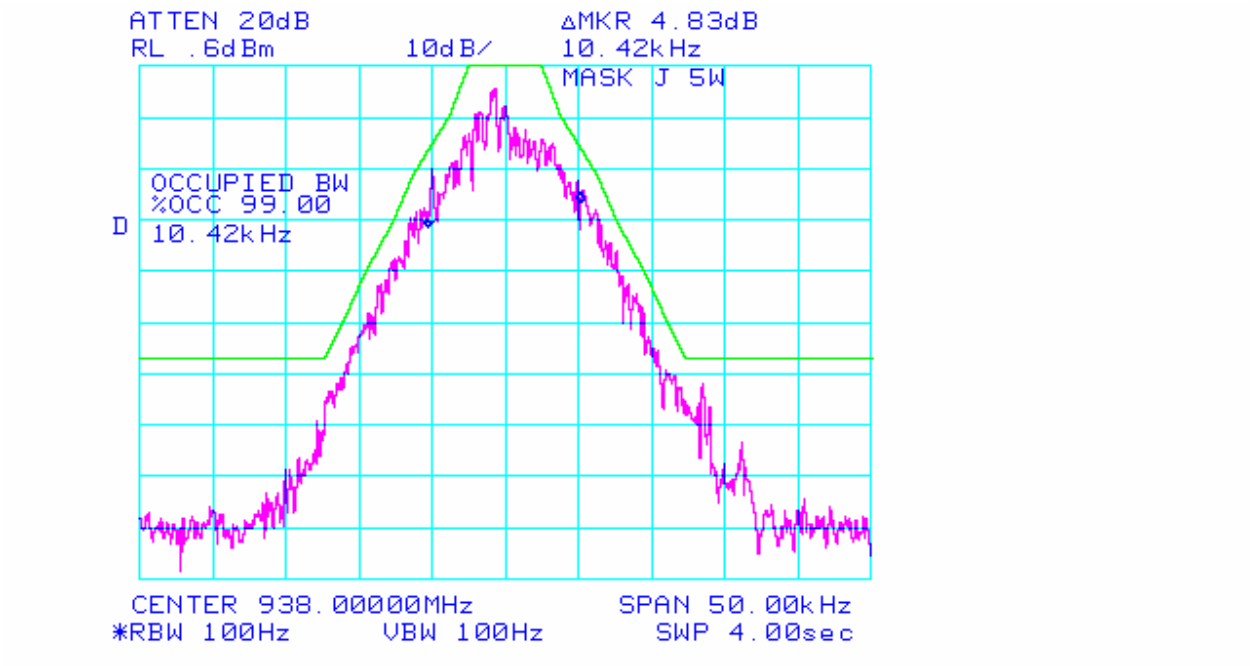
MASK: J , 10K5F1D, 5W

SPECTRUM FOR EMISSION **10K5F1D**
OUTPUT POWER: 5 Watts
21600 bps 8 FSK
PEAK DEVIATION = 3760 Hz
SPAN = 50 kHz



MASK: J, 10K5F1D, 1W

SPECTRUM FOR EMISSION **10K5F1D**
OUTPUT POWER: 1 Watts
21600 bps 8 FSK
PEAK DEVIATION = 3760 Hz
SPAN = 50 kHz



NAME OF TEST: Transmitter Occupied Bandwidth
Paragon PD at 24000 bps 8FSK
In Support of Emission Designator **9K42F1D**

RULE PART NUMBER: 2.201, 2.202, 2.1049 (h), 2.1041, 90.209 (b)(5), 90.210 (j)

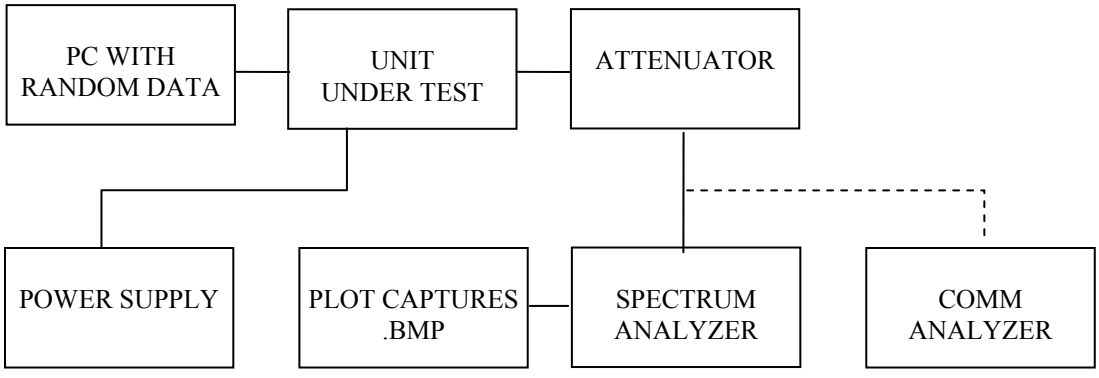
MINIMUM STANDARD: Mask J
Sidebands and Spurious [Rule 90.210 (j)]
Authorized Bandwidth = 13.6 kHz [Rule 90.209(b) (5)]

Fo to 2.5 kHz	Attenuation = 0 dB
>2.5 kHz to 6.25 kHz	Attenuation= 53*log(f_d KHz /2.5) dB
>6.25 kHz to 9.5kHz	Attenuation = 103 log (f_d/3.9)dB
>9.5kHz	lesser of 50 + 10*log(P) or 157 log (f_d/5.3) or 70dB
Corner Points:	
f_0 to 2.5 kHz	Attenuation = 0 dB
>2.5 kHz to 3.8 kHz	Attenuation= 0 dB to 10 dB
>3.8 kHz to 6.25 KHz	Attenuation = 10 dB to 21 dB
>6.25 kHz to 7.6 KHz	Attenuation = 21 dB to 30 dB
>7.6 kHz to 9.5 KHz	Attenuation = 30 dB to 40 dB
>9.5 kHz to 11.2 KHz	Attenuation = 40 dB to 51 dB
>11.2 kHz to 12.3kHz	Attenuation = 51 dB to 57 dB
>12.3kHz	Attenuation = minimum 57 dB (5W)

TEST RESULTS: Meets minimum standard (see data on the following pages)
TEST CONDITIONS: Standard Test Conditions, 25 C
TEST EQUIPMENT: Attenuator, BIRD Model / 100-A-MFN-30 / 30 dB / 50 Watt
DC Power Supply , Astron Model VS-20M
IFR COM-120B
Spectrum Analyzer, Model HP8563E
HP power meter model#E4418B
HP Benchlink -software for plot captures.

PERFORMED BY: Constantin Pintilei DATE: 01/03/2003

TEST SET-UP:



NAME OF TEST: Transmitter Occupied Bandwidth (Continued)
Paragon PD at 24000 bps 4FSK
In Support of Emission Designator **9K58F1D**

TX Data Test Pattern:

The random data generator function of the BDLC generates a 2047-long bit test sequence. This function is performed with a serial shift register and a exclusive OR two tap gate that implement the polynomial form $X^{10}+X^{8}+1$. The initial value of the register is 7FF.

After this, the data follow the digital modulation process described in the page 10 and the resulting base band signal feed the modulator's input of the Exciter.

For the deviation measurements on the modulation analyzer an IF filter of 30KHz has been used.

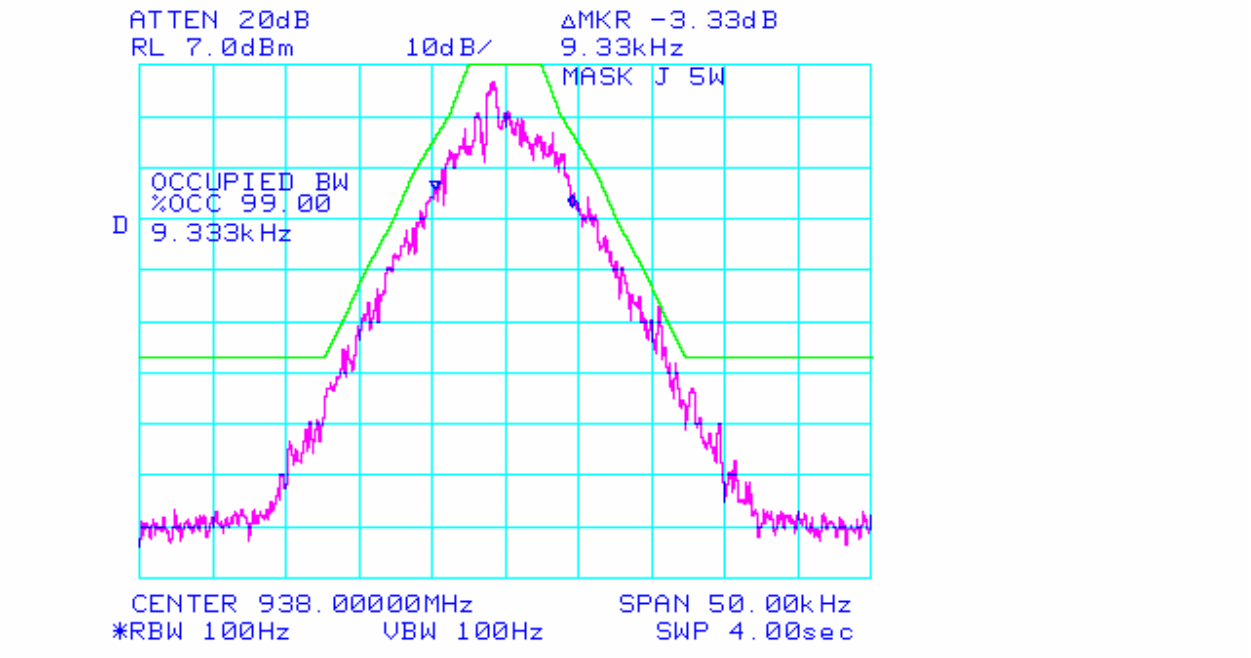
NECESSARY BANDWIDTH (Bn) measurement

See Page 10 for emission designator determination.

The corresponding emission designator prefix for necessary bandwidth = **9K58**
The corresponding deviation for 24000 Bps is 3370 Hz
TEST DATA: Refer to the following graphs:

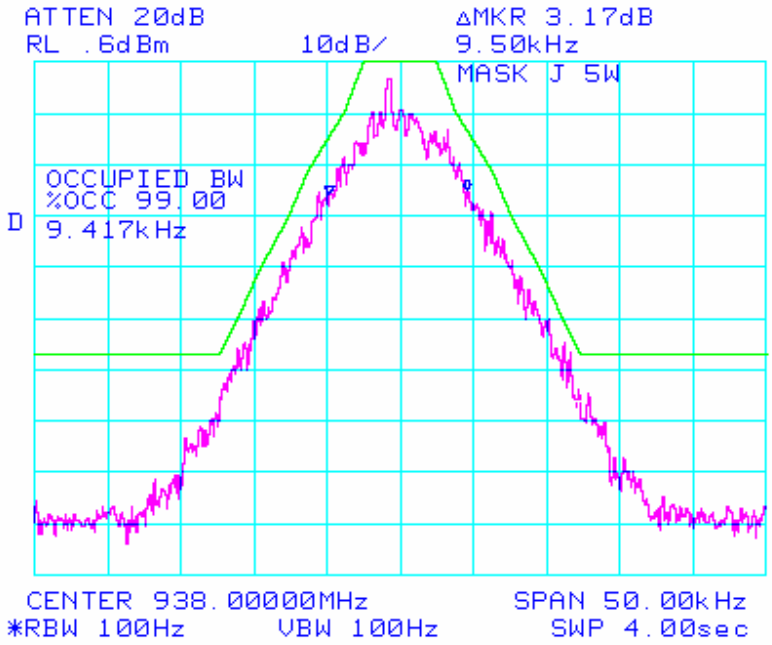
MASK: J , 9K42F1D, 5W

SPECTRUM FOR EMISSION **9K42F1D**
OUTPUT POWER: 5 Watts
24000 bps 8 FSK
PEAK DEVIATION = 3370 Hz
SPAN = 50 kHz



MASK: J, 9K42F1D, 1W

SPECTRUM FOR EMISSION **9K42F1D**
OUTPUT POWER: 1 Watts
24000 bps 8 FSK
PEAK DEVIATION = 3370 Hz
SPAN = 50 KHz



NAME OF TEST: Transmitter Occupied Bandwidth
Paragon PD at 28800 bps 8FSK
In Support of Emission Designator **9K50F1D**

RULE PART NUMBER: 2.201, 2.202, 2.1049 (h), 2.1041, 90.209 (b)(5), 90.210 (j)

MINIMUM STANDARD: Mask J
Sidebands and Spurious [Rule 90.210 (j)]
Authorized Bandwidth = 13.6 kHz [Rule 90.209(b) (5)]

Fo to 2.5 kHz	Attenuation = 0 dB
>2.5 kHz to 6.25 kHz	Attenuation= 53*log(f_d KHz /2.5) dB
>6.25 kHz to 9.5kHz	Attenuation = 103 log (f_d/3.9)dB
>9.5kHz	lesser of 50 + 10*log(P) or 157 log (f_d/5.3) or 70dB

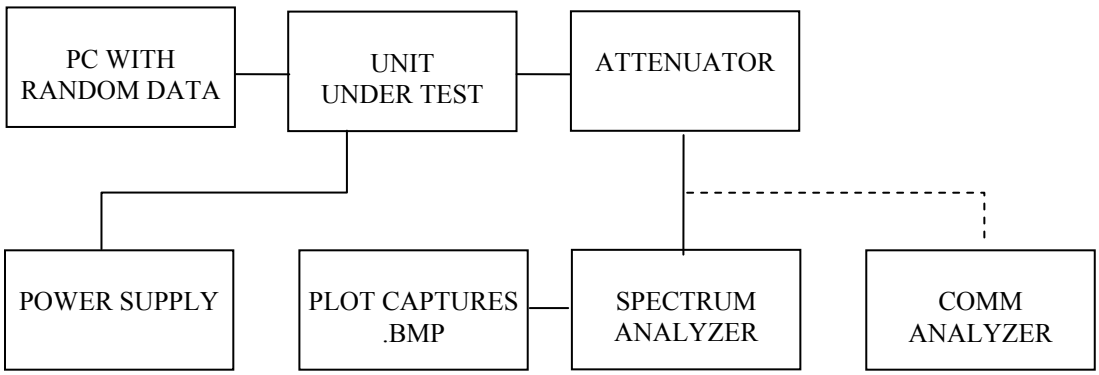
Corner Points:

f_0 to 2.5 kHz	Attenuation = 0 dB
>2.5 kHz to 3.8 kHz	Attenuation= 0 dB to 10 dB
>3.8 kHz to 6.25 KHz	Attenuation = 10 dB to 21 dB
>6.25 kHz to 7.6 KHz	Attenuation = 21 dB to 30 dB
>7.6 kHz to 9.5 KHz	Attenuation = 30 dB to 40 dB
>9.5 kHz to 11.2 KHz	Attenuation = 40 dB to 51 dB
>11.2 kHz to 12.3kHz	Attenuation = 51 dB to 57 dB
>12.3kHz	Attenuation = minimum 57 dB (5W)

TEST RESULTS: Meets minimum standard (see data on the following pages)
TEST CONDITIONS: Standard Test Conditions, 25 C
TEST EQUIPMENT: Attenuator, BIRD Model / 100-A-MFN-30 / 30 dB / 50 Watt
DC Power Supply , Astron Model VS-20M
IFR COM-120B
Spectrum Analyzer, Model HP8563E
HP power meter model#E4418B
HP Benchlink -software for plot captures.

PERFORMED BY: Constantin Pintilei DATE: 01/03/2003

TEST SET-UP:



NAME OF TEST: Transmitter Occupied Bandwidth (Continued)
Paragon PD at 28800 bps 8FSK
In Support of Emission Designator **9K50F1D**

TX Data Test Pattern:

The random data generator function of the BDLC generates a 2047-long bit test sequence. This function is performed with a serial shift register and a exclusive OR two tap gate that implement the polynomial form $X^{10}+X^{8}+1$. The initial value of the register is 7FF.

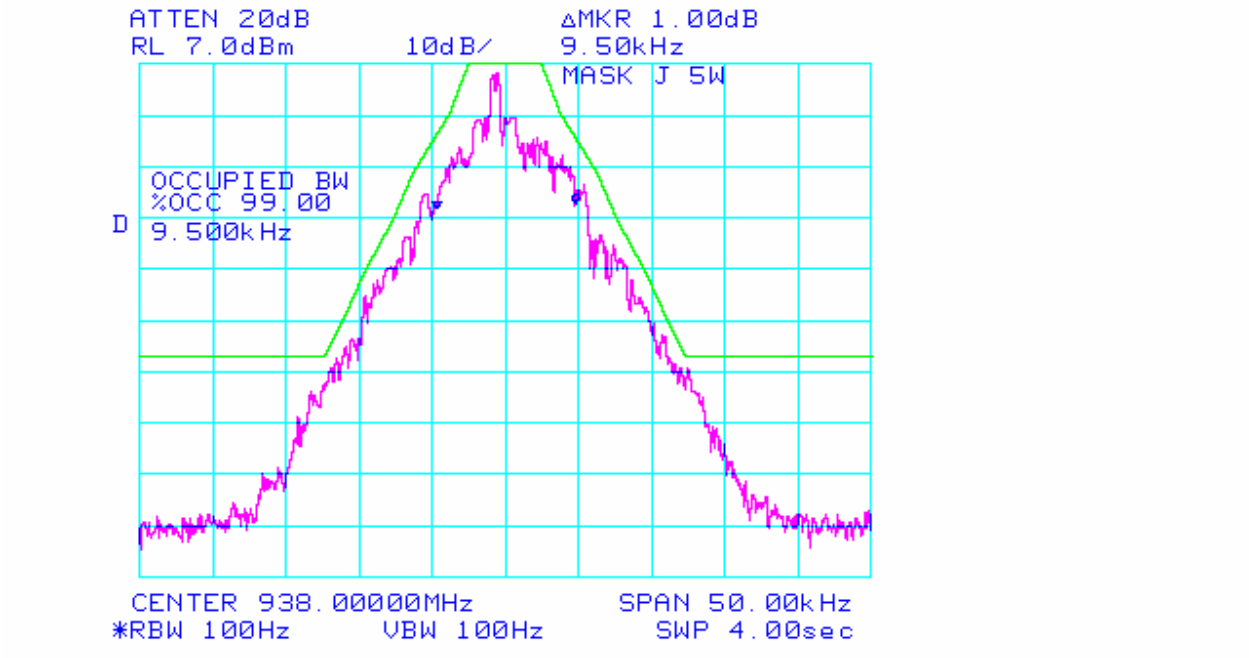
After this, the data follow the digital modulation process described in the page 10 and the resulting base band signal feed the modulator's input of the Exciter.

For the deviation measurements on the modulation analyzer an IF filter of 30KHz has been used.

NECESSARY BANDWIDTH (Bn) measurement
See Page 10 for emission designator determination.
The corresponding emission designator prefix for necessary bandwidth = **9K50**
The corresponding deviation for 28800 bps is 3140 Hz
TEST DATA: Refer to the following graphs:

MASK: J , 9K50F1D, 5W

SPECTRUM FOR EMISSION **9K50F1D**
OUTPUT POWER: 5 Watts
28800bps 8FSK
PEAK DEVIATION = 3140 Hz
SPAN = 50 kHz



MASK: J, 9K50F1D, 1W

SPECTRUM FOR EMISSION **9K50F1D**
OUTPUT POWER: 1 Watts
28800 bps 8FSK
PEAK DEVIATION = 3140 Hz
SPAN = 50 kHz