TELEPHONICS
A Griffon Company
815 Broad Hollow Rd., Farmingdale, New York 11735 (631) 755-7625 Fax: (631) 755-7046

This word document contains figures representing the FCC type acceptance test report for the Receiver Transmitter RT-1501A. These figures are scanned images from the FCC type acceptance test report part number 2072593-0000, dated August 1986. It should be noted that those pages "Intentionally Left Blank" were not scanned and are therefore not included here.

REVISIONS				
LTR	DESCRIPTION	DATE	DR	CHECKED

IDENTIFYING NUMBER	DESCRIPTION
2072593-0000	FCC TYPE ACCEPTANCE REPORT SHEET 2 THROUGH - NOTE: Document entitled "Report of Emission Test of Radar Transmitter RT-1501A Serial Number E-1" and dated 10 June 1986 is part of this Type Acceptance Report. (Sheets 14 through 19)

The Bendix Corporation
Avionics Division
Fort Lauderdale, Florida

D 8/12/86 A. Dusseau A 8/21/86	C 8-20-86 A 8/21/86

FCC TYPE ACCEPTANCE REPORT BENDIX TYPE RT-1501A AIRBORNE WEATHER SEARCH RADAR TRANSMITTER-RECEIVER

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593

SCALE | SHEET 1 of 22

FORM 1033

TELEPHONICS
A Griffon Company
815 Broad Hollow Rd., Farmingdale, New York 11735 (631) 755-7625 Fax: (631) 755-7046

TABLE OF CONTENTS

SECTION	PAGE
Bendix Approval and Certification	3
Certifying Engineer	3
1.0 GENERAL INFORMATION	4
2.0 DESCRIPTION OF EQUIPMENT	4
3.0 TEST PROCEDURE & DATA	5

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 2

FORM 1069-1

TELEPHONICS
A Griffon Company
815 Broad Hollow Rd., Farmingdale, New York 11735 (631) 755-7625 Fax: (631) 755-7046

BENDIX APPROVAL AND CERTIFICATION

This is to certify that based on the measurements included in this report, the Bendix Type RT-1501A Weather Search Radar complies with the requirements of the FCC Rules and Regulations, Part 2 and Part 87, under normal operation with the usual amount of maintenance. This technical data, having been taken under by supervision, is hereby cerified.

8-21-1986
Date

Manager, Radar Development

CERTIFYING ENGINEER

I certify that the attached data was prepared by me and that to the best of my knowledge the facts set forth were obtained by using good engineering practice and are true and correct

8-17-86
Date

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 3

FORM 1069-1

1.0	GENERAL INFORMATION	
1.1	Manufacturer	Allied Corporation Bendix Avionics Division 2100 N.W. 62nd Street Fort Lauderdale, Florida 33308
1.2	Bendix Type Number	RT-1501A
1.3	Service and Rule Part Under Which Equipment is Operated	Aviation Service: Vol. 5, Part 87 Vol. 2, Part 2
2.0	DESCRIPTION OF EQUIPMENT	
2.1	Type of Emission	PO
2.2	Frequency Range	9375 MHz ±5 MHz
2.3	Power Rating	Peak: 10KW ±25% Average: Weather, Beacon & Long Range Search 4.7W for 2.35 usec pulse at a 200 pps PRF. Short Range Search - 2.95W for 2.35 usec pulse at a 100 pps PRF and 0.1 usec pulse at a 600 pps PRF.

2.4 Voltages Applied and Current into Magnetron

	Cathode	Filaments
Voltage	6.0 KV	6.3 VDC
Current	5.5A	

2.5 Function of Transmitting Magnetron Tube and Receiver Local Oscillators

2.5.1 Magnetron

The output pulse received form the modulator is applied to the anode of a conventional positive trigger magnetron. This drives the magnetron into oscillation producting a 9375 MHz, 10 kW peak power output signal.

The magnetron is designed for single-frequency operation adjustable to 9375 MHz to insure compatibility with beacon transponder bandwidth constrictions.

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 4

FORM 1069-1

2.5.2 1st Local Oscillator

The local oscillator is a solid state X-band frequency source generating a 9462 MHz output signal with a power of at least 5 milliwatts. The L.O. consists of a cavity stabilized Gunn diode which directly converts DC power to microwave energy. The output frequency is varied electrically by a cavity mounted varactor diode and mechanically by a screw providing for center frequency adjustment. It also contains a regulated power supply for the Gunn diode and requires a 1 to 13V input for varactor operation.

2.5.3 2nd Local Oscillator (AFC)

The second local oscillator is a crystal controlled Colpitts oscillator operating at a frequency of 75.000 MHz and feeds the AFC mixer circuit.

2.6 Circuit Diagram & Photos of Internal Construction

These are included as separate attachments to this report.

3.0 TEST PROCEDURE AND DATA

3.1 RF Power Output

The power measurements were made after the RT-1501A had been aligned and tested for proper operation. A 30.5 db directional coupler and attenuator assembly plus a dummy load were connected to the waveguide output flange. A bolometer and RF power meter were used to measure the average power output.

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 5

FORM 1069-1

PRF = 200 Hz Pulse Width = 2.40 usec

Pav. (measured) = 37.2 dBm = 5.2 watts average

$$\text{Peak Power} = \frac{\text{Pav}}{\text{PRF} \times \text{P.W.}} = \frac{5.2}{200 \times 2.4 \times 10^{-6}} = 10.8 \text{ kw}$$

PRF = 100 Hz Pulse Width = 2.40 usec
and
PRF = 600 Hz Pulse Width = 0.11 usec

Pav. (measured = 34.67 dBm = 2.93 watts average

$$\text{Peak Power} = \frac{\text{Pav}}{\text{PRF} \times \text{P.W.}} = \frac{2.93}{(100 \times 2.4 + 600 \times 0.1) \times 10^{-6}} = 9.57\text{kw}$$

Test Equipment Used:

Power Meter HP432A

Thermistor Mount HP478A

Calibrated Attenuator HPX752D, Weinschel 210-10

Dummy Load Royal X720, S/N 109

3.2 Modulation Characteristics

The RT=1501A is an unmodulated pulse transmitter. The pulse width was measured at the output flange of the waveguide. A crystal detector and oscilloscope were used to measure both the pulse width and PRF.

Pulse width at 50% = 2.40 usec and 0.11 usec

Pulse repetition frequency = 200/100 Hz and 800 Hz.

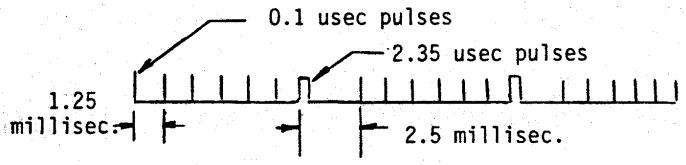
In the weather, beacon & long range search operating modes, the modulation is a 2.35 $\pm$0.15 pulse at a 200 pps PRF.

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 6

FORM 1089-1

3.2 Modulation Characteristics (continued)

In the short range search operating modes, a 0.1 ±.025 usec pulse is transmitted at an 800 pps rate (1.25 millisecond inter pulse period). This narrow pulse transmission train is interrupted after every 6 pulses for a period of 3.75 milliseconds; during this time, a single 2.35 usec pulse is transmitted.



Short Range Search Modulation

Test Equipment Used:

Oscilloscope Tektronix 465A

Crystal Detector HP 420A

3.3 Bandwidth Occupied (See attached photos)

Spectrum analysis was used to determine the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated would each be equal to 0.5 percent of the total mean power radiated. Spectrum analyzer photographs were made for both the 0.1 and 2.35 microsecond pulse modes. The area under the curve was evaluated. This area was subdivided to locate the points on both upper and lower frequency extremities beyond which 0.5% of the total power occurred. The bandwidth between these points is the Occupied Bandwidth.

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 7

FORM 1068-1

3.3 Bandwidth Occupied (continued)

The results show a bandwidth of 9.0 MHz and 75 MHz (approx. ±37.5 MHz) for the 2.35 usec and 0.1 usec pulse modes respectively. Since the frequency of the magnetron is 9375 ±1 MHz and the authorized band is 9300 ~~MHz~~ 9500 MHz, 99% of the power is contained within the bandwidth limits.

Equipment Used:

Spectrum Analyzer HP 8565A

3.4 Spurious Emissions

(1) Radio frequency voltage measurements at the antenna terminals.

Refer to the attached document entitled:

Report of Emission Test
of
Weather Radar
Transmitter RT-1501A
Serial Number E-1

Dated 10 June 1986

(2) Field strength measurements of spurious radiation.

This test was run in accordance with the standards set down in RTCA Paper #DO-160A. All measurements are in terms of peak values for pulsed equipment.

A calculated value had to be used as a reference level since it is impractical to measure the output power (i.e., electric field intensity) 12 inches from the antenna.

Thus:

$W = \frac{PT}{4\pi R^2}$

W = Power density in watts/m^2

PT = Peak transmitted power in watts

R = Distance from antenna in meters

$W = \frac{0.9 \times 10^4}{4\pi (.09)}$ W/m^2

When: $PT = 0.9 \times 10^4 W$

$R = 12" = 0.3m$

$W = 8.8\ KW/m^2$

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 8

FORM 1068-1

However, this is a far field equation which is only valid from 5.6m ($\frac{2D^2}{\lambda}$) to infinity. The region 30 cms (12") away from the antenna is in the Fresnel zone which extends from 25 cms to 5.6m (i.e., 8λ to $\frac{2D^2}{\lambda}$) and calculations of the power density in this region show a reduction of 2.4dB below that calculated using the far field equation for a planar array antenna.

Therefore:

$W = \frac{8800}{1.74}\ w/m^2 = 5057\ w/m^2$

but

$W = \frac{E^2}{Z}$ where Z - 120π, and E = Electric field intensity in V/m

Therefore:

$E = \sqrt{WZ}$

$= \sqrt{5057 \times 120\pi}$

$E = 1380\ V/m$

$E = 1.38 \times 10^9\ uV/m$

$E = 182\ dB$ above uV/m

$E = 182\ dB$ above uV/m

Dividing by the spectrum bandwidth of $\frac{1}{\tau}$

$\tau = 0.1$ us, $E_1 = \frac{1.38 \times 10^9}{10}$ uV MHz/m = $.138 \times 10^9$ uV MHz/m

or 163 dB above 1 uV MHz/m

$\tau = 2.35$ us, $E_2 = \frac{1.38 \times 10^9}{.4255} = 3.24 \times 10^9$ uV MHz/m

or 190 dB above 1 uV MHz/m

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 9

FORM 1068-1

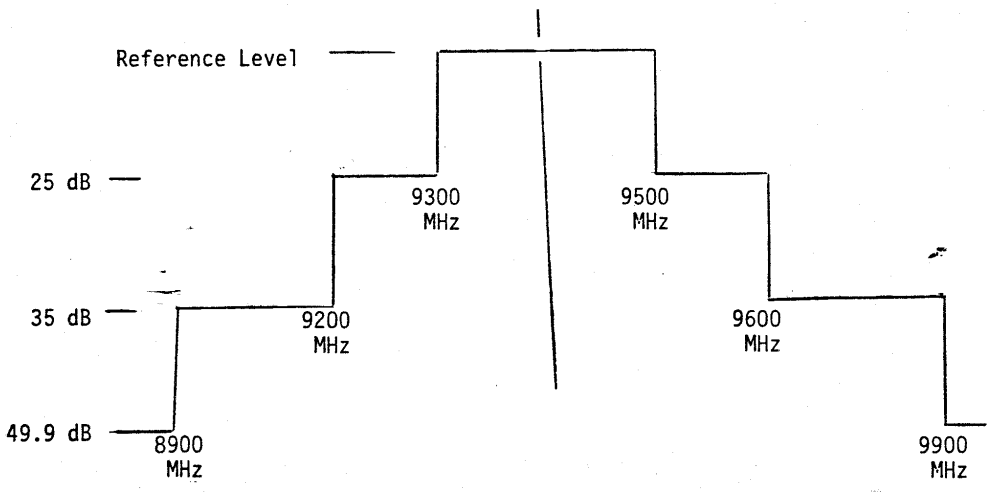
TELEPHONICS
A Griffon Company
815 Broad Hollow Rd., Farmingdale, New York 11735 (631) 755-7625 Fax: (631) 755-7046

The authorized frequency band is 9.3 GHz to 9.5 GHz. From 50% to 100% of the authorized bandwidth each side of the transmitter the emission has to be 25 dB below the above determined reference levels.

Any emissions removed from the assigned frequency by more than 250% of the authorized bandwidth are to be attenuated from the reference levels by not less than 43 + 10 log (fundamental mean power output in watts).

We thus establish as limits that any emissions outside the frequency range 8900 MHz to 9900 MHz are required to be attenuated from the reference levels by not less than 43 + 6.9 dB = 49.9 dB. The amplitude of spurious emissions which are more than 69.9 dB below the reference levels are not reported.

Reference Level



EMISSION LIMITATIONS

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 10

FORM 1069-1

Since the reference levels calculated above = 163 dB (τ = 0.1 usec) and 190 dB (τ = 2.35 us) above 1 uV/MHz, the maximum amplitude of spurious emission is given by 163 - 49.9 = 113.1 dB above 1 uV/MHz/m for τ = 0.1 us and 190 - 49.9 = 140.1 dB above 1 uV/MHz/m for τ = 2.35 us. Measurements were made from 90 kHz through 10 GHz using the equipment listed below. No spurious emissions of amplitude greater thant 78 dB above 1 uV/MHz/m were measured. Refer to attached document "Report of Emission Test, " paragraph 7 for measurement above 10 GHz.

Equipment Used:

1. Interference Unit - Singer - NN/17-27
2. Analyzer Unit - Singer - NN/37-57
3. X-Y Recorder - HP 7045B
4. Oscilloscope - Tectronix - R5103N
5. Antenna - EMCO - 3301
6. Antenna - EMCO - 3104
7. Antenna - EMCO - 3102
8. Antenna - EMCO - 3101
9. Spectrum Analyzer - HP 8565A
10. Antenna - EMC) - 3120
11. Programmer - Singer P7

3.5 Frequency Stability

The following measurements were made in order to determine the frequency change with temperature and line voltage variations as specified below. After each change in temperature or line voltage, the frequency was allowed to stabilize before measurements were made.

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 11

FORM 1083-1

(1) Line Voltage Variations

%	-15%	Nominal	+15%
V	+24 VDC	+28 VDC	+32 VDC
F	9376.0	9375.9	9375.8

ΔF_1 = +0.1 MHz ΔF_2 = -0.1 MHz

(2) Temperature Variations

Temp (°C)	Frequency (MHz)
-40	9378.62
-35	9378.38
-25	9377.80
-15	9377.43
-5	9376.88
+5	9376.40
+15	9375.93
+25	9375.48
+35	9375.15
+45	9374.96
+55	9375.04

ΔF = 9378.62 - 9374.96 = 3.66 MHz

$\Delta T = 95^{o}C$

The linearized thermal coefficient of frequency is

$$\frac{\Delta F \text{ (Total}}{\Delta T} = \frac{3.66}{95} = 38.5 \text{ KHz}/^{o}C)$$

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 12

FORM 1062-1

TELEPHONICS
A Griffon Company
815 Broad Hollow Rd., Farmingdale, New York 11735 (631) 755-7625 Fax: (631) 755-7046

In order to prove that the maximum emission will not approach closer than 1.5/T MHz to the edge of the authorized frequency band, as specified in Vol. 5, Part 87.65(d) of the FCC Rules and Regulations, it is necessary to sum all factors which may shift the frequency of maximum emission from its nominal frequency of 9375 MHz.

Center frequency tolerance *	+1.0 MHz	-1.0 MHz
Maximum Δ F for temperature	+3.14 MHz	-0.52 MHz
Maximum Δ F for line voltage	+0.1 MHz	-0.1 MHz
	+4.24 MHz	-1.62 MHz

* Center Frequency is tuneable

The authorized frequency band is 9300 MHz to 9500 MHz. With a nominal frequency of 9375 MHz, the frequency of maximum emission must be from 9315.00 MHz to 9485.00 MHz. The data above shows that the frequency of emission will be from 9373.38 MHz to 9380.24 MHz.

Equipment Used:

Microwave Pulse Counter - EIP Model 451

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 13

FORM 1069-1

REPORT OF

EMISSION TESTS OF

WEATHER RADAR

TRANSMITTER

RT1501A

SER. NO. E1

10 JUNE 1986

Prepared by:

Bud Berryman

Bud Berryman
EMC Engineering Group
of Dept.311

Bendix Field
Engineering corp.
One Bendix Road
Columbia, Md. 21045

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 14

FORM 1069-1

1. INTRODUCTION AND ABSTRACT

This report presents a description of the tests performed and the results obtained in FCC type-acceptance tests performed on weather radar transmitter, RT1501A, sreial number E1. This unit was tested to determine compliance with FCC Rules and Regulations, Vol. II, Part 2, subpart J, and Vol. V, Part 87, para. 87.71. The testing indicated no emissions removed by more than 250% of the transmitter authorized bandwith from the fundamental frequency other than the 2nd harmonic were present. The measurement system was sensitive enough to assure detection of any emissions within 10dB of the permissible levels throughout the testing frequency range.

2. REFERENCES

FCC Rules and Reglations:
Volume II, Part 2, Subpart J
Volume V, Part 87, Para. 87.71

3. TEST SAMPLE

The test sample was one Receiver/Transmitter unit of weather radar 1501A, number E1, manufactured by Bendix Avionics Division, Ft. Lauderdale, Florida. The following nominal data apply to this test sample:

Pulse Width (us):	2.35	or	2.35 and 0.1
PRF (Hz)	200	or	100 and 600
Mean pwr out(watts):	4.7	or	2.95
Operating Freq.(MHz)	9375.0	or	9375.0 (nominal)
	9374.74	or	9376.46 (measured)

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 15

FORM 1068-1

Some of the characteristics that need to be reported as part of the type acceptance procedure according to Vol. II, Part 2, subpart J,of the FCC Rules and Regulations were measured and are as follows:

(para. 2.987) Pulse Width (us):	2.4	or	2.4 and 0.11
(para. 2.987) PRF (Hz)	200	or	200 and 600
(para. 2.985) Average pwr out(watts):	5.2	or	2.93
(para. 2.989) Occupied Bandwidth	(See figures 1 and 2.)		

(para. 2.991)
Spurious Emissions at Antenna Terminals
(Performed under open field radiated conditions and tested for conformance to FCC Rules and Regulations Vol.V, Part 87, para.87.71.)
No emissions other than 2nd harmonic of transmitter fundamental detected.

(para. 2.993)
Field strength of spurious radiation
(Performed under open field radiated conditions and tested coincidently with the FCC Rules and Regulations Vol.V, Part 87, para.87.71 compliance testing.)
No emissions other than 2nd harmonic of transmitter fundamental detected.

4. TEST AGENCY, DATE AND LOCATION

The test was performed by Bendix Field Engineering Corp. on the 9th and 10th of June, 1986 in an open area that is part of an antenna test range located at the Bendix Field Engineering owned Columbia, Md. facility.

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 16

FORM 1069-1

5. EMISSION LIMITS

Vol.V, Part 87, Aviation Services, Para. 87.71 of the FCC Rules and Regulations defines the amplitude limitations for undesired emissions from equipment operating at an assigned frequency above 30MHz. These limitations for this test effort can be summarized as follows:

* Emissions between 50% and 100% of the authorized bandwidth removed from the fundamental frequency must be 25dB or more down from the fundamental power.
* Emissions between 100% and 250% of the authorized bandwidth removed from the fundamental frequency must be 35dB or more down from the fundamental power.
* Emissions more than 250% of the authorized bandwidth removed from the fundamental frequency must be 43+10log(fund.mean power in watts)dB or more down from the fundamental power.

Authorized bandwidth is the maximum occupied bandwidth authorized to be used. The maximum authorized occupied bandwidth for the test sample in this test effort is considered to be 200MHz or between 9.3 and 9.5GHz.
The emission limitations for this test sample can then be expressed as follows:

* Emissions between 100 and 200MHz removed from the fundamental frequency must be 25dB or more down from the fundamental power.
* Emissions between 200 and 500MHz removed from the fundamental frequency must be 35dB or more down from the fundamental power.
* Emissions more than 500MHz removed from the fundamental freq. must be 43+10log(fund.mean pwr in watts)dB or more down from the fundamental power.

6. MEASUREMENT PERFORMANCE SUMMARY

The test sample was set up on an equipment cart in an open area. Operating power was supplied by a long flexible line that was laid directly on the ground surface and approached the test sample at a right angle to the antenna aiming path. Receiving antennas were aligned with the transmitting antenna for each measurement and were located a distance of 52 feet from the transmitting antenna. This distance was chosen based on the far field distance for the 4th harmonic of the transmitter fundamental and the largest dimension of the transmitting antenna. The transmitting antenna was a waveguide fed horn antenna with a calibrated gain of 22dB at 9.4GHz. This antenna was connected to the transmitter output through X band waveguide and a waveguide directional coupler for monitoring output power. A power meter was connected to the foward power sampling port of the directional coupler and was monitored during the tests to indicate proper operation of the test sample. No variation in output power occured throughout the test period.

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 17

FORM 1069-1

All measurement equipment other than the antennas and mixers were located away from the main beam path of the transmitting antenna. The measurement receiver system consisted of the HP8566B, spectrum analyzer and in some cases external mixers connected to calibrated antennas. When external mixers were used, a two foot section of appropriate waveguide was connected between the mixer and the receiving antenna to act as a high pass filter and eliminate reporting spurious responses.

To measure the amplitude relationship of any received spurious signals to the amplitude of the fundamental emission at the transmitter output, the total test coupling loss must be determined between the transmitter output and the analyzer or mixer input. This can be done by subtracting the transmitter antenna gain and the receiving antenna gain from the space loss and any external attenuation and cable loss at each frequency where an emission is detected. For the fundamental and the 2nd, 3rd, and 4th harmonics the total test coupling loss in dB is as follows:

FREQ.	TX ANT.GAIN	RX ANT.GAIN	EXT.ATTN.& CABLE LOSS	SPACE LOSS	TTC LOSS
9375	22	25	27	75	55
18750	28	17	0	81	36
28125	31	24	0	84	29
37500	34	25	0	87	28

The initial measurement was a verification of the total test coupling loss calculations for the fundamental. This measurement provided the following:

Received signal= +15dBm pk +37dBm ave.=Tx output (measured)
Total Test 33dB=Peak to average power
Coupling Loss= 55dB ratio expressed in dB.
Tx pk pwr= +70dBm +70dBm

After this verification measurement the frequency range of 20MHz to40GHz was slowly scanned using suitable receiving antennas. This scan was performed while the test sample was operated in each of its modulation modes. Particular attention was devoted to the receiver local oscillator and frequency multiplying chain as well as transmitter harmonic frequencies.

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 18

FORM 1069-1

7. MEASUREMENT RESULTS

The only emission detected other than the fundamental was the transmitter 2nd harmonic. Particulars for this emission are as follows:

FREQ.	RCVD LVL	TTC LOSS	EMISSION LEVEL AT TX OUTPUT	DOWN FROM FUNDAMENTAL
18.75GHz	-62dBm(pk)	36dB	-26dBm(pk)	96dB

This emission was essentially the same amplitude for both modulation modes tested.

In view of the measurement effort and results herein described it is concluded that the unit under test is in compliance with the requirements of FCC Rules and Regulations Volume V, Part 87, paragraph 87.71.

Jeffrey F Miller
MEASUREMENT TECHNICIAN

Burl Berryman
MEASUREMENT ENGINEER
FCC License # PG-4-6719

EMC ENGINEERING
DEPARTMENT 311
BENDIX FIELD ENGINEERING CORP.
ONE BENDIX ROAD
COLUMBIA, MD. 21045

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 19

FORM 1068-1

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

GRANT OF EQUIPMENT AUTHORIZATION

Type Acceptance

The Bendix Corporation
Air Transport Avionics Division
2100 NW 62nd Street
Ft Lauderdale, FL 33310

Attention: T. P. Mullinix

Date of Grant: December 29, 1986
File No.: 31010/EQU 17.9
Application dated: September 30, 1986

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER: AOI9PGRT-1501A

Name of Grantee: The Bendix Corporation

Manufacturer: The Bendix Corporation (USA)

Equipment Class : Non-Broadcast Transmitter

Note(s)	Rule Part(s)	Frequency Range (MHz)	Output Watts	Frequency Tolerance	Emission
-	87	9300-9500	10000	-	7M10P0N

js

This form supersedes FCC Forms 722A & 723A.

In correspondence concerning this grant, please refer to the FCC IDENTIFIER, File No., and date of grant.

FCC 731A
September 1979

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 20

FORM 1083-1

13. EQUIPMENT SPECIFICATIONS

(a) Frequency range (list all frequency bands covered in equipment) 9300-9500 MHz Magnetron Design Center 9375 MHz	(b) Rated RF Power output (if variable, give range) 10KW (Nominal) 4.7W Average (Long Range and Beacon 10KW (Nominal) 2.95W Average (Short Range)
(c) Power output to final RF amplifier (if applicable) 6000 Volts at 5.5 Amps, (Pulsed)	(d) Rated frequency tolerance ±5 MHz
(e) Emission designator(s) Po	(f) Power supply (Check appropriate box(es)) ☐ AC ☐ Battery ☒ Other (specify) DC From Aircraft Generator or Transformer Rectifier

14. Total number of exhibits submitted with application 4 Attach list of exhibits

15.(a) Technical information contact (Firm name, number, street, city, state, ZIP code) Same as 2(a) and (b)	(b) Nontechnical information contact, if different from item 15(a) (Firm name, number, street, city, state, ZIP code) Same as 15(a)
(c) Name and title of person at above address James S. Hazlett	(d) Name and title of person at above address

(e) Telephone Information (USA ONLY)	Area code	Number	Extension	(f) Telephone Information (USA ONLY)	Area code	Number	Extension
	305	928	2377				

16. APPLICANT CERTIFICATION

I certify that I am authorized to sign for the applicant and that all the statements in this application and in the exhibits attached hereto are true and correct to the best of my knowledge and belief. If I am an agent authorized to complete, and sign this application on behalf of the applicant, a copy of such authorization, signed by the applicant, is attached hereto.

I further certify that, if the applicant is not the actual manufacturer of the equipment listed herein, appropriate arrangements have been made with the manufacturer to assure that production units of this equipment bearing the name and FCC IDENTIFIER listed in this application will continue to comply with the Commission's requirements.

Applicant's full business name ▶ Bendix Corp., Air Transport Avionics Division (Must agree with name in Item 2(a))

T.P. Mullinix — ▲ Written signature of authorized signer

T. P. Mullinix — ▲ Typed/printed name of authorized signer

Manager, Configuration Control & Certifications — ▲ Title of authorized signer

September 30, 1986 — ▲ Date (Month, Day, Year)

WILLFUL FALSE STATEMENTS MADE ON THIS APPLICATION ARE PUNISHABLE BY FINE AND IMPRISONMENT, U.S. CODE, TITLE 18, SECTION 1001.

NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT OF 1974 AND THE PAPERWORK REDUCTION ACT OF 1980

The solicitation of the personal information requested in this form is to determine if your equipment is suitable for an equipment authorization pursuant to the Commission's Rules. The information will be used by the FCC staff to evaluate the equipment and to maintain a computer data base of authorized equipment. No authorization can be granted unless all information requested is provided. Your response is required to obtain this equipment authorization.

DISCLOSURE OF INFORMATION

Unless otherwise determined, all data submitted will be made available for public inspection. Sec. 47 C.F.R. Sec. 0.457(d)(2); 5 U.S.C. Sec. 552.

FCC FORM 731 MAY BE REPRODUCED PROVIDED THE FOLLOWING CONDITIONS ARE MET:

1. That private companies reproducing FCC forms use a printing process resulting in a product that is comparable in quality to the original document;
2. That private companies reproducing the form refrain from including therein or attaching thereto any advertising matter or deleting any material from the form;
3. That private companies reproducing the form exercise care to assure that the form being reproduced or distributed is the current edition presently used by the Commission for the type of application involved; such private company to be advised that, though the Commission will endeavor to keep the public advised of revisions in the form, it cannot assume responsibility to the extent of eliminating any element of risk against overstocking, etc.

SIZE	CODE IDENT NO.	DRAWING NUMBER	FCC Form 731 Page 2 April 1985
A	27914	2072593	
SCALE		SHEET 21	

FORM 1033-1

FCC FORM 731

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

Approved by OMB 3060-0057 Expires 3/31/85

APPLICATION FOR EQUIPMENT AUTHORIZATION

1.(a) Grantee Code assigned by FCC: A0I	(b) Manufacturer Code assigned by FCC: 9PG
2.(a) Applicant's FULL business name: Bendix Corp., Atr Transport Avionics Division	FOR FCC STAFF USE
(b) Applicant's COMPLETE address (Number, street, city, state, ZIP code): PO Box 9327 2100 NW 62nd Street Ft. Lauderdale, FL 33310	
(c) Name and title of person at above address to receive grant (SEE INSTRUCTIONS): T. P. Mullinix, Manager, Configuration Control and Certifications	
3.(a) Instead of applicant, FCC is authorized to mail original grant to (Firm name, number, street, city, state, ZIP code): N/A	File No.: EQU Application dated Data entered ____ by Examiner ____
(b) Name and title of person at above address to receive grant: N/A	
4.(a) FULL name of equipment manufacturer, if different from Item 2(a) above: N/A	Reviewer(s)
(b) Address of equipment manufacturer, if different from Item 2(b) above (Number, street, city, state, ZIP code): N/A	Equipment Code: Print ____ authorization(s) Microfiched ____ by ____ date

5. Has a request for confidentiality been filed for any portion(s) of the data contained in this application pursuant to Section 0.459 of the Commission's rules, or has a waiver of any sections of the Commission's rules been filed? YES [ ] NO [X]

6. Kind of equipment authorization requested (Check ONE box only) [ ] Certification [X] Type Acceptance [ ] Type Approval [ ] Notification (See Instructions)

7.(a) Kind of equipment: X-Band Weather Radar	(b) Equipment will be operated under FCC Rules Part(s): Part 2 and Part 87

8. Application is for (Check ONE box only)

[X] 1 Original Equipment — List FCC ID in Item 9(a) and trade name, if any in Item 9(b).

[ ] 2 Change in identification of presently authorized equipment — List FCC ID in Item 9(a) and trade name, if any in Item 9(b). Complete Items 10(a), (c), (d), and (e).

[ ] 3 Change in manufacturer of presently authorized equipment — List FCC ID in Item 9(a) and trade name, if any in Item 9(b). Complete Items 10(b), (c), (d), and (e).

[ ] 4 Modification of presently authorized equipment — List FCC ID in Item 9(a) and trade name, if any in Item 9(b). Give date of original grant ____ If no FCC ID assigned, complete Items 11(a)-11(d).

9.(a) FCC ID (grantee and manufacturer codes listed in Item 1(a) and 1(b), plus number assigned by applicant. SEE INSTRUCTIONS: A0I9PGRT-1501A	
(b) Trade Name(s), if any (maximum of 30 characters each - see Instructions): N/A	
10.(a) Name of present grantee, if different from Item 2(a) above: N/A	(b) Name of present manufacturer, if different from Item 4(a) above: N/A
(c) FCC ID, if assigned/Model or Type No., and Trade name, if any: A0I9PGRT-1501A	(d) FCC Type Approval No., if assigned: N/A; (e) Date of original grant: N/A
11.(a) Complete ONLY if no FCC ID assigned to equipment to be modified (Model or type No.): N/A	(b) Trade Name, if any: N/A
(c) FCC Type Approval No., if assigned: N/A	(d) Date of original grant: N/A

12.(a) Is the equipment, or section(s) thereof, subject to more than one equipment authorization? [ ] Yes [X] No If yes, complete Item 12(b), and 12(c), 12(d), or 12(e), as appropriate.

(b) Additional equipment authorization(s) required for equipment [ ] Certification [ ] Type Acceptance [ ] Type Approval

(c) FCC ID listed on simultaneously filed RCVR or PCVR section application: N/A	(d) FCC ID listed on simultaneously filed XMTR or XMTR section application: N/A	(e) FCC ID listed on other simultaneously filed application: N/A

FOR FCC STAFF USE ONLY	FOR FCC STAFF USE ONLY

All previous editions of this form are obsolete.

FCC Form 731 - Page 1 April 1982

SIZE	CODE IDENT NO.	DRAWING NUMBER
A	27914	2072593
SCALE		SHEET 22

FORM 1033-1