



Applicant: Daniels Electronics Ltd.
43 Erie St
Victoria, BC, V8V 1P8

Equipment Under Test: UT-3/420-SN08 UHF Transmitter
406 - 430 MHz

FCC ID: H4JUT-3-420-S08

In Accordance With: 47 CFR Part 90

Tested By: Daniels Electronics Ltd.
43 Erie St
Victoria, BC, V8V 1P8

Authorized By:

A handwritten signature in black ink, appearing to read 'Dale Reitsma', written over a horizontal line.

Dale Reitsma, D&D Manager

Testing Verified By:

A handwritten signature in blue ink, appearing to read 'Michael J. Cyr', written over a horizontal line.

Michael J. Cyr, Communication System Designer

Date: 26 September 2005

Total Number of Pages: 10

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1. Summary of Test Data

Name of Test	Para No.	Result
Modulation Limiting	2.1047	Complies
Occupied Bandwidth	2.1049	Complies

Notes:

- 1) This application is for approval of the UT-3/420-SN UHF Narrowband Transmitter.
- 2) This Class II Permissive Change is to support the addition of emission designators 11K0F3E and 9K2F1D to the original filing. As such, only relevant test data has been provided in this report.

Emission Designator Calculations:

- FM voice: $2M+2DK = 2 \times 3000\text{Hz} + 2 \times 2500\text{Hz} = 11K0$
 - 4-Level Data: $2M+2DK = 2 \times (1/2) \times (3200 \text{ baud}) + 2 \times (2500\text{Hz}) \times (1/2) = 9K2$
- 3) Two sets of tests were conducted on a single transmitter (Serial No. 10355) for emission designators 11K0F3E and 9K2F1D.
 - 11K0F3E: Modulation Limiting and Occupied Bandwidth
 - 9K2F1D: Occupied Bandwidth

General

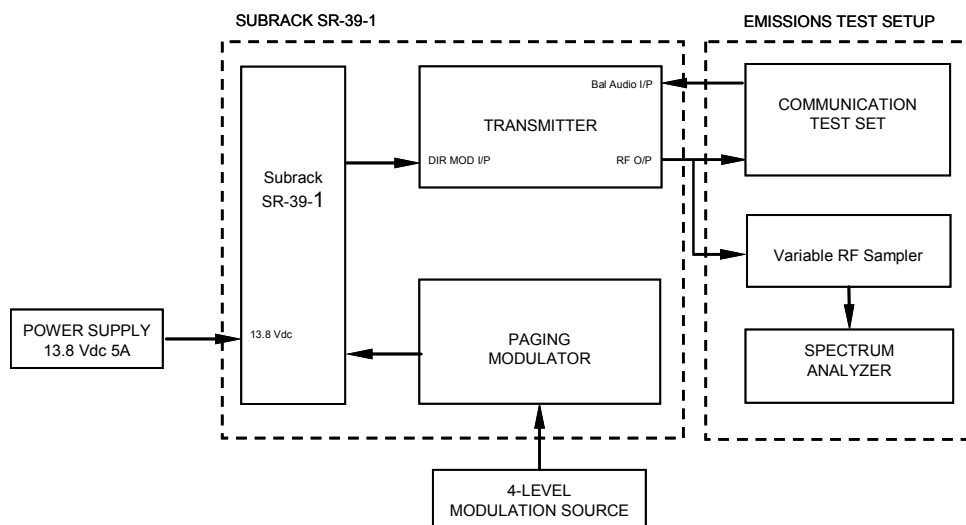
All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 90.

Test Conditions:

Indoor Temperature: 23°C
 Humidity: 30%

Test Arrangement Diagram:



2. General Equipment Specifications

Manufacturer:	Daniels Electronics Ltd.
Model Number:	UT-3/420-SN08 UHF Transmitter
Serial Number(s) of EUT(s):	10355
Starting Date of Testing:	6 September 2005
Primary Power:	13.8Vdc
Modulation:	FM 4-LEVEL DATA @ 6400 B.P.S.
Emission Designator:	11K0F3E 9K2F1D
Power Output:	8.0 W
Channel Spacing:	12.5 kHz
Frequency Range:	406 – 430 MHz

3. Modulation Limiting (47 CFR §2.1047)

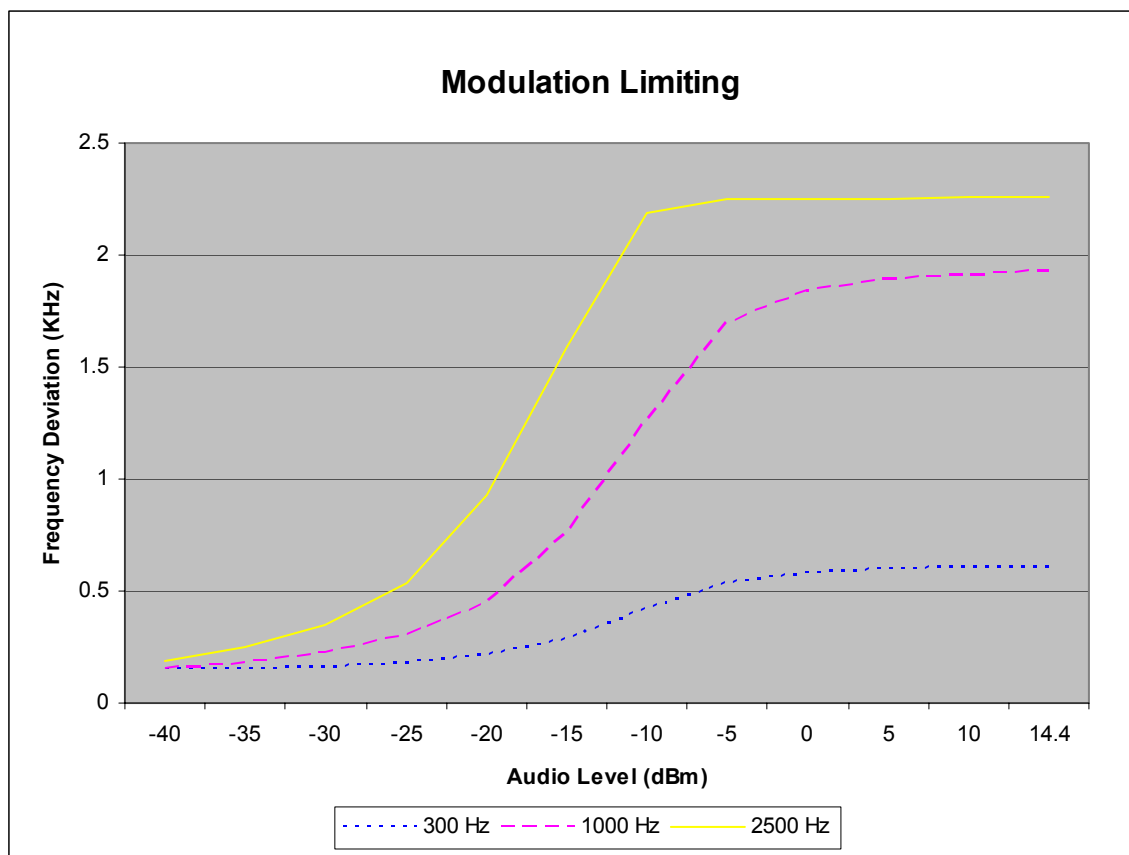
Test Results: Complies

The transmitter was modulated using FM modulation for emission designator 11K0F3E.

Serial Numbers of EUT: 10355

Minimum Standard: N/A

Test Data: See following graph:



4. Occupied Bandwidth (47 CFR §2.1049)

Test Results: Complies

Note: (1) & (2) below represent tests with FM and 4-level Data modulation, respectively.

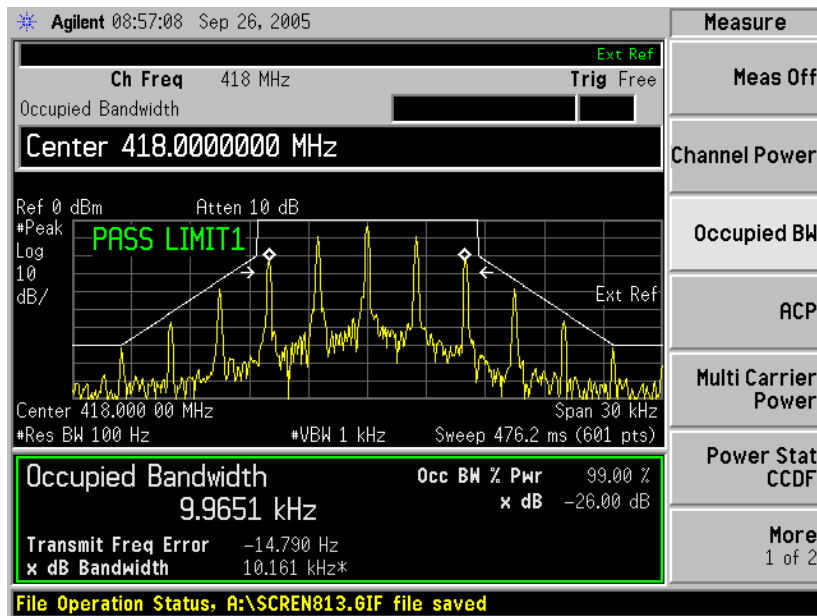
Serial Number of EUT: 10355

Minimum Standard: Mask D

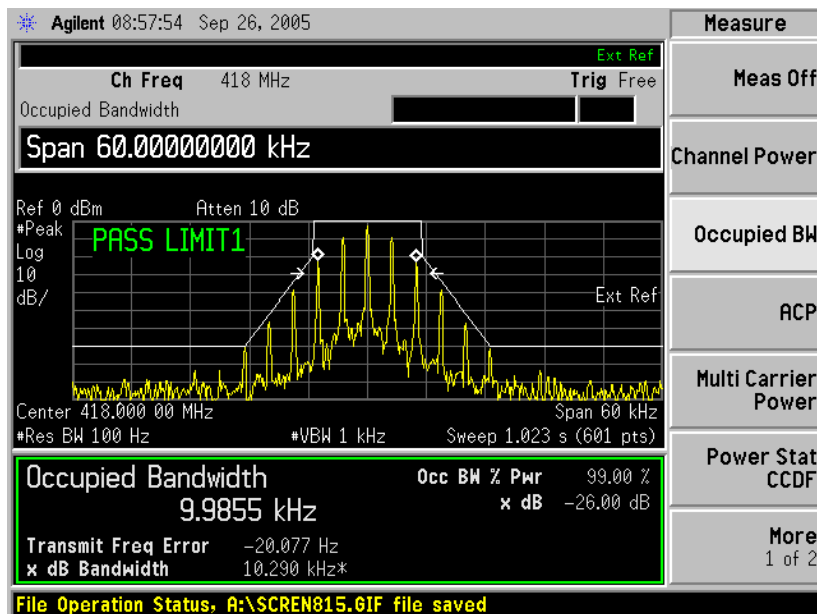
Max 99% Emission Bandwidth: 11K0F3E = 9.9855 kHz
9K2F1D = 6.6491 kHz

Test Data: See following graphs:

(1) FM Modulation

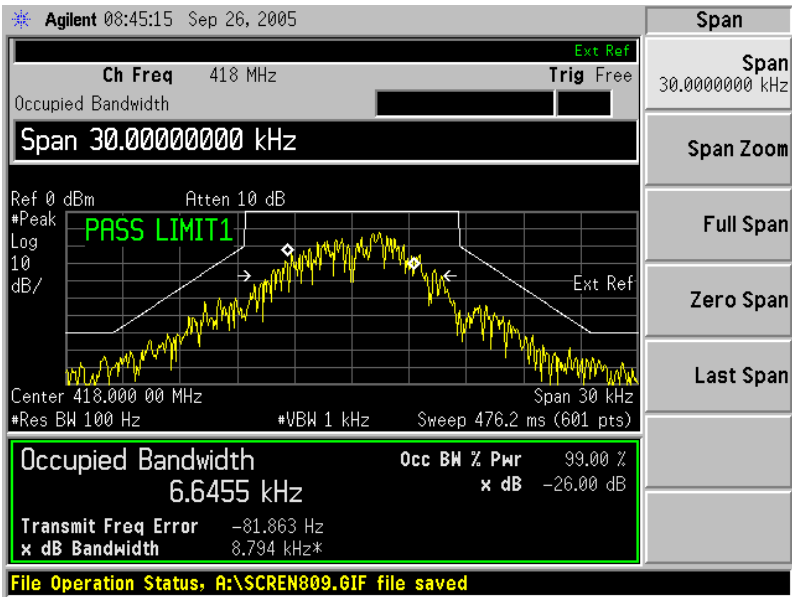


FCC Mask D
11K0F3E
8W, 12.5 KHz Channel Spacing

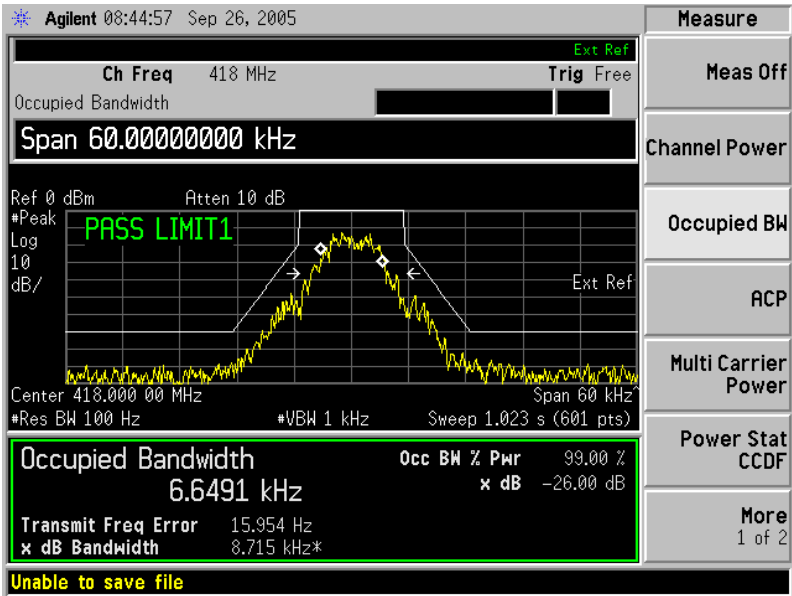


FCC Mask D
11K0F3E
8W, 12.5 KHz Channel Spacing

(2) 4-LEVEL DATA Modulation



FCC Mask D
9K2F1D
8W, 12.5 KHz Channel Spacing



FCC Mask D
9K2F1D
8W, 12.5 KHz Channel Spacing

5. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL	NEXT CAL
N/A	Paging Modulator	Daniels Electronics Ltd	CI-PM-3	D&D 42460	N/A	N/A
2 Year	Radio Test Set	IFR	2948	294504/340	21/Nov/2003	21/Nov/2005
1 Year	Spectrum Analyzer	Agilent Technologies	E4440A	US40420232	14/Apr/2005	14/Apr/2006
N/A	Variable RF Sampler	Bird	4275-020	DE 2803	N/A	N/A
N/A	4-Level Modulation Source	Daniels Electronics Ltd	Paging Test Code	N/A	N/A	N/A