Test Report:	1R03540
Applicant:	MPH Industries Inc. 316 E 9th Street Owensboro, KY 42303
Equipment Under Test: **(EUT)**	BEE III Traffic Radar
In Accordance With:	**FCC Part 90**
Tested By:	Nemko Canada Inc. 3325 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	 G. Westwell, Wireless Technologist
Date:	March 19, 2001
Total Number of Pages:	13
Authorized Copy:	Soft Copy

Table of Contents

Section 1. Summary of Test Results

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.

☒	New Submission	☒	Production Unit
☐	Class II Permissive Change	☐	Pre-Production Unit

T	N	B

Equipment Code

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

NVLAP LAB CODE: 100351-0

TESTED BY: Russell Grant DATE: March 19, 2001

Russell Grant, Wireless Group Manager

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complies
Audio Frequency Response	2.1047	N/A
Audio Low-Pass Filter Response	2.1047	N/A
Modulation Limiting	2.1047	N/A
Occupied Bandwidth	2.1049	N/A
Spurious Emissions at Antenna Terminals	2.1051	Complies
Field Strength of Spurious Emissions	2.1053	Complies
Frequency Stability	2.1055	Complies
Transient Frequency Behavior	——	N/A

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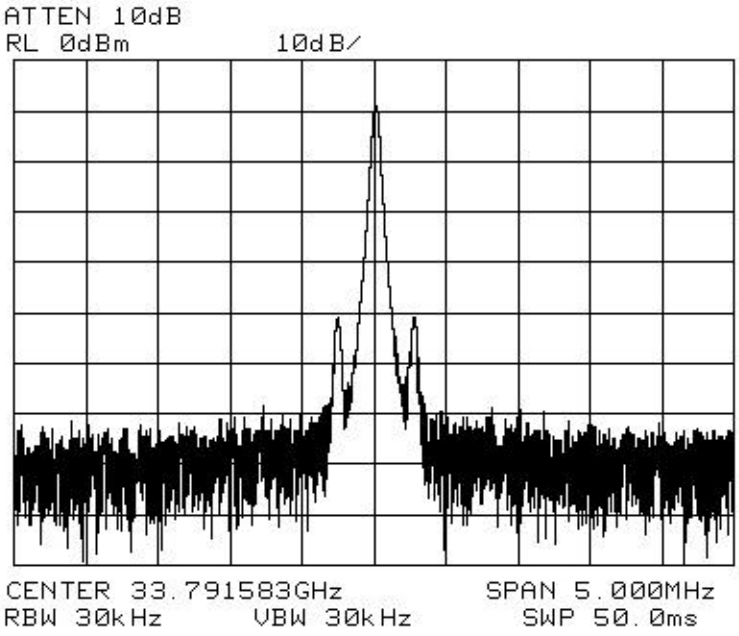
Section 2. General Equipment Specification

Date Received In Laboratory:	February 15, 2001
Nemko Identification No.:	Item #1
Frequency:	33.8GHz ± 100MHz
Output Power:	30mW
Integral Antenna:	24dBi Gain
Primary Power:	13.8VDC To Controller


ATTEN 10dB
RL 0dBm
10dB/
CENTER 33.791583GHz
SPAN 5.000MHz
RBW 30kHz
VBW 30kHz
SWP 50.0ms

Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Russell Grant	**Date of Test:** February 19, 2001

Minimum Standard: ± 1dB

Test Results: Complies.

Measurement Data: Tx 33.8GHz

Measured:	14.3dBm
Rated:	14.8dBm

Section 4. Spurious Emissions at Antenna Terminals

Para. No.: 2.1051

Test Performed By: Russell Grant	**Date of Test:** March 13, 2001

Minimum Standard: -13dBm

Test Results: Complies.

Measurement Data:

Frequency of Emission (GHz)	**Emission Level (dBm)**
67.6	-14.8

The spectrum was searched up to 200GHz. All emissions within 20dB of the specification limit were measured and reported.

Section 5. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Russell Grant	**Date of Test:** February 20, 2001

Minimum Standard: -13dBm

Test Results: Complies.

Measurement Data: No emissions detected.

The spectrum was searched up to 200Ghz. All emissions within 20dB of the specification limit were measured and reported.

Section 6. Frequency Stability

Para. No.: 2.1055

Test Performed By: Russell Grant	**Date of Test:** March 13, 2001

Minimum Standard: N/A

Test Results: Complies.

Measurement Data: Standard Test Voltage: 13.8VDC
Standard Test Frequency: 33.8GHz

Test Condition	Frequency (GHz)	Frequency Drift (MHz)
115% STV 20°C	33.802	2
STV 20°C	33.803	3
85% STV 20°C	33.802	2
-30 °C	33.835	35
-20 °C	33.848	43
-10 °C	33.849	49
0 °C	33.840	40
+10 °C	33.824	24
+30 °C	33.817	17
+40 °C	33.809	9
+50 °C	33.793	-7

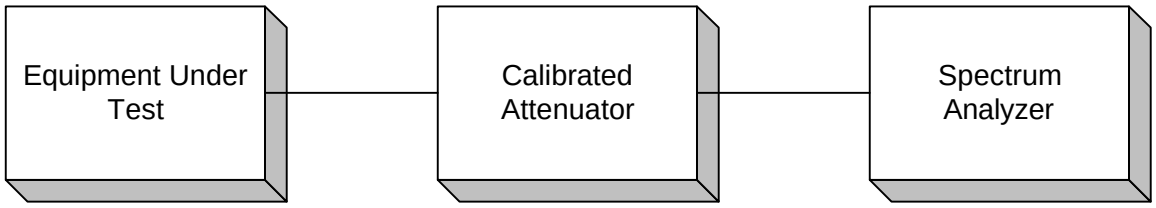
Section 7. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8565E	FA000981	June 16/00	June 16/01
1 Year	Climate Chamber	Thermotron	SM-16C	15649-S	COU	COU
3 year	Mixer/Antenna 40-60Ghz	Olsen – OML	M19HWA (H.P.)		Mar. 15/00	Mar. 15/03
3 year	Mixer /Antenna 60-90Ghz	Olsen – OML	M12HWA (H.P.)		Mar. 15/00	Mar. 15/03
3 year	Mixer / Antenna 90-140Ghz	Olsen – OML	M08HWA (H.P.)		Mar. 15/00	Mar. 15/03
3 year	Mixer / Antenna 140-220Ghz	Olsen – OML	M05HWA (H.P.)		Mar. 15/00	Mar. 15/03

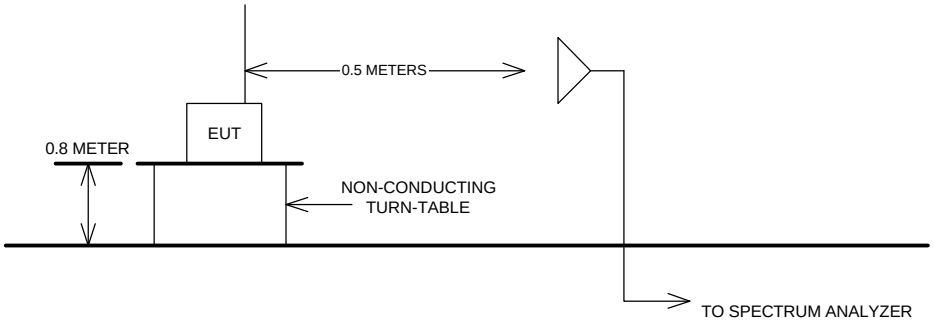
NA: Not Applicable
NCR: No Cal Required
COU: CAL On Use

Section 8. Test Diagrams

Para No.: 2.1046 – RF Power Output
Para. No. 2.1051 – Spurious Emissions at Antenna Terminals



Para. No. 2.1053 - Field Strength of Spurious Radiation



Para. No. 2.1055 - Frequency Stability