

KTL Test Report: 0R03335

Applicant: Infinition Inc.
3630 Jean Talon
Trois Rivieres, Quebec
G8Y 2G7

Equipment Under Test: 35 GHz Doppler Radar
(E.U.T.) BR-3501 Land Mobile Location Station

FCC ID: PDGBR-3501

In Accordance With: FCC Part 90

Tested By: KTL Ottawa Inc.
3325 River Road, R.R. 5
Ottawa, Ontario K1V 1H2

Authorized By: G. Westwell, Technologist

Date:

Total Number of Pages: 14

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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



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: _____ DATE: _____
Russell Grant, Wireless Group Manager

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This report applies only to the items tested.

EQUIPMENT: 35 GHz Doppler Radar BR-3501 Land Mobile Location Station
FCC ID: PDGBR-3501

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complies
Audio Frequency Response	2.1047	Not Applicable
Audio Low-Pass Filter Response	2.1047	Not Applicable
Modulation Limiting	2.1047	Not Applicable
Occupied Bandwidth	2.1049	Complies
Spurious Emissions at Antenna Terminals	2.1051	Complies
Field Strength of Spurious Emissions	2.1053	Complies
Frequency Stability	2.1055	Complies
Transient Frequency Behavior	—	Not Applicable

Section 2. General Equipment Specification

Manufacturer: Infinition Inc.

Model No.: BR-3501

Date Received In Laboratory: January 3, 2001

KTL Identification No.: Item #1

Equipment: Doppler Radar

Frequency of Operation: 35 GHz

RF Power Output: 20.6 dBm

Emission Designator: N0N

Section 3. RF Power Output**Para. No.: 2.1046**

Test Performed By: Russell Grant	Date of Test: January 3, 2001
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Minimum Standard: $\pm 1\text{dB}$ **Test Results:** Complies. The RF output power is 21.5dBm. This is within 1dB of the manufacturer's rating.

Measurement Data:	Field Strength:	$96.3\text{dB}\mu\text{V} + 44.2\text{dB}$ $= 140.5\text{ dB}\mu\text{V/m}, 10.6\text{V/m} @ 3\text{m}$
EIRP:	$\frac{10.6^2 \times 9}{30} = 33.7\text{W}, 45.3\text{ dBm}$	
Cable Loss:	6.2dB	
EIRP:	$45.3\text{dBm} + 6.2\text{dB} = 51.5\text{dBm}$	
Tx Antenna Gain:	30dBi	
RF Output Power:	$51.5\text{dBm} - 30\text{dBi} = 21.5\text{dBm}$	
Rated RF Output Power:	20.6dBm	
$\frac{\text{Measured}}{\text{Rated}} = +0.9\text{dB}$		

Section 4. Occupied Bandwidth

Para. No.: 2.1049

Test Performed By: Russell Grant	Date of Test: January 3, 2001
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Minimum Standard: N/A

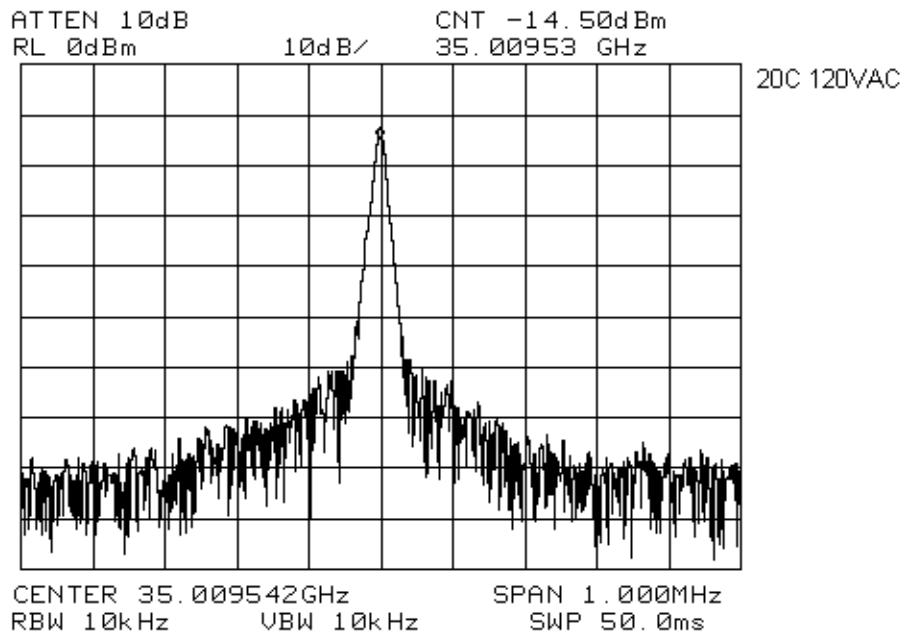
Test Results: Complies.

Measurement Data: Unmodulated Carrier

KTL Ottawa

FCC PART 90
PRIVATE LAND MOBILE TRANSMITTER
PROJECT NO.: 0R03335

EQUIPMENT: 35 GHz Doppler Radar BR-3501 Land Mobile Location Station
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Section 5. Spurious Emissions at Antenna Terminals

Para. No.: 2.1051

Test Performed By: Russell Grant	Date of Test: January 3, 2001
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Minimum Standard: -13dBm

Test Results: Complies.

Measurement Data: This equipment uses an integral antenna which does not readily lend itself for direct connection to a spectrum analyzer. Therefore, field strength measurements were made with the antenna attached. See measurement data for Field Strength of Spurious Emissions.

Section 6. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Russell Grant	Date of Test: January 3, 2001
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Minimum Standard: -13dBm

Test Results: Complies.

Measurement Data: No emissions were detected within 20dB of the specification limit.

Section 7. Frequency Stability**Para. No.: 2.1055**

Test Performed By: Russell Grant	Date of Test: January 3, 2001
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Minimum Standard: N/A**Test Results:** Complies. The maximum frequency drift is 13.69MHz. This is 0.039% of the standard test frequency.Standard Test Frequency: 35000MHz
STV: 120VAC**Measurement Data:**

Test Condition		Frequency Drift (MHz)
-30°C	STV	12.19
-20°C	STV	13.47
-10°C	STV	13.69
0°C	STV	13.17
+10°C	STV	11.51
+20°C	85% STV	9.30
+20°C	STV	9.53
+20°C	115 %STV	9.11
+30°C	STV	8.15
+40°C	STV	6.09
+50°C	STV	2.36

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Section 8. 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	Harmonic Mixer	H.P.	50-75Ghz	FA001027	Mar. 9/00	Mar. 9/03
3 year	Harmonic Mixer	H.P.	75-110Ghz	FA001302	Oct. 13/98	Oct. 13/01
3 year	Diplexer	Olsen - OML	DPL.26 (H.P.)		Mar. 15/00	Mar 15/03
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

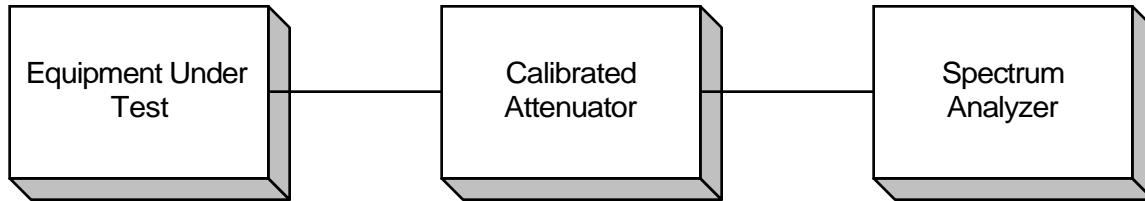
NCR: No Cal Required

COU: CAL On Use

EQUIPMENT: 35 GHz Doppler Radar BR-3501 Land Mobile Location Station
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Section 9. Test Diagrams

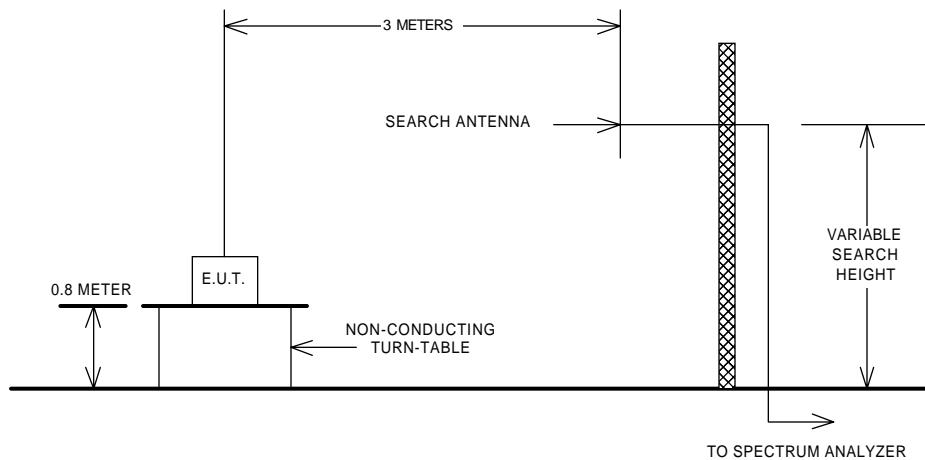
Para. No. 2.1051 - Spurious Emissions at Antenna Terminals



Para. No. 2.1053 - Field Strength of Spurious Radiation

Para. No. 2.1046 – RF Power Output

Para. No. 2.1049 – Occupied Bandwidth



EQUIPMENT: 35 GHz Doppler Radar BR-3501 Land Mobile Location Station
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Para. No. 2.1055 - Frequency Stability