

Nemko Test Report: 4L0613RUS1Rev4

Applicant: Motion Computing, Inc.
8601 RR 2222 Bldg 2
Building 1, Suite 250
Austin, Texas 78730

**Equipment Under Test:
(E.U.T.)** T004

In Accordance With: **FCC Part 15, Subpart E**
UNII Band Transceiver

Tested By: Nemko Dallas Inc.
802 N. Kealy
Lewisville, Texas 75057-3136

Authorized By:

A handwritten signature in black ink, appearing to read 'Abe Cox', is positioned above a vertical red line.

Abe Cox, Frontline Engineer

Date: March 13, 2006

Table of Contents

Section 1.	Summary of Test Results	3
Section 2.	Equipment Under Test (E.U.T.)	5
Section 3.	Powerline Conducted Emissions	7
Section 4.	26 dB Occupied Bandwidth	11
Section 5.	Maximum Peak Output Power	18
Section 6.	Peak Excursion	25
Section 7.	Spurious Emissions (radiated)	32
Section 8.	Peak Power Spectral Density	35
Section 9.	Test Equipment List	42
ANNEX A - TEST DETAILS		43
ANNEX B - TEST DIAGRAMS		44

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4

Section 1. Summary of Test Results

Manufacturer: Motion Computing, Inc.

Model No.: T004

Serial No.: None

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 Part 15, Subpart C, Paragraph 15.247 for Direct Sequence Spread Spectrum devices. Radiated tests were conducted in accordance with ANSI C63.4-2001. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.



New Submission



Production Unit



Class II Permissive Change



Pre-Production Unit

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. NONE
See " Summary of Test Data".

**NVLAP LAB CODE: 100426-0**

Nemko Dallas Inc. authorizes the above named company to reproduce this report provided it is reproduced in its entirety and for use by the company's employees only.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Nemko Dallas Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. This report applies only to the items tested.

EQUIPMENT: T004TEST REPORT NO.: 4L0613RUS2Rev4

Summary Of Test Data

NAME OF TEST	PARA. NO.	RESULT
Powerline Conducted Emissions	15.207(a)	Complies
26 dB Bandwidth	15.407(a)	Complies
Maximum Peak Power Output	15.407(a)	Complies
Spurious Emissions (Antenna Conducted)	15.407(a)	N/A
Spurious Emissions (Restricted Bands)	15.407(a)	Complies
Peak Power Spectral Density	15.407(a)	Complies

Footnotes:

The antennas are integral to the radio modules.

Section 2. Equipment Under Test (E.U.T.)

General Equipment Information

Frequency Band: ☒ 5150 – 5250 MHz
☒ 5120 - 5350 MHz

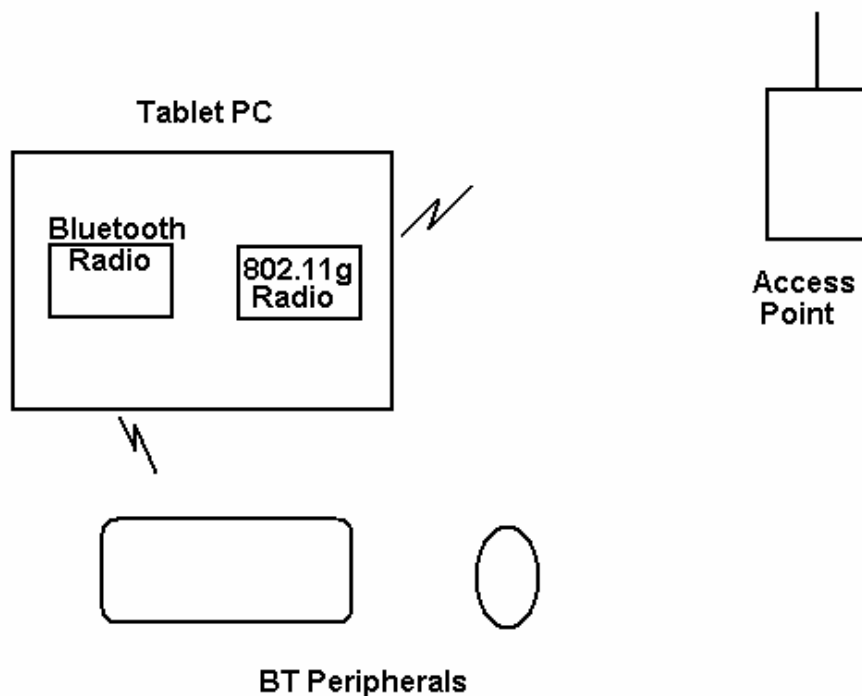
Channel Spacing: 10 MHz

User Frequency Adjustment: Software controlled

Description of EUT

The T400 is a portable computer platform based on ultra-portable tablet PC technology utilizing Microsoft's Tablet version of Windows XP. The PC is compatible with 802.11a, b and g technologies.

The PC also has Bluetooth capability.

System Diagram

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4

Section 3. Powerline Conducted Emissions

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207(a)
TESTED BY: Kevin Rose	DATE: 12/20/04

Test Results: Complies.

Measurement Data: See attached plots.

Measurement Uncertainty: +/- 1.7 dB

NOTE: The device was tested with both radio modules transmitting simultaneously.

Test Data – Powerline Conducted Emissions



NEMKO Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Conducted
Powerline Voltage MeasurementComplete X
Preliminary _____

Job # : 4L0613e

Test # : CEPV-01

Page 1of 2

Client Name : Motion Computing Inc.

EUT Name : LE1600 Series

EUT Model # : T004

EUT Part # : EDX20

EUT Serial # : 56

EUT Config. : transmitting max power and DVD operating

Specification : FCC B

Reference : EN 55022 Class B

Transducer # : 969 Temp. (deg. C) : 20

Date : 12/20/04

HP Filter # : 1433 Humidity (%) : 19

Time : 10:26

Cable 1 # : 1998 EUT Voltage : 120

Staff : KEVIN ROSE

Cable 2 # : 1129 EUT Frequency : 60

Location : ROOM 2

Detector 1 # : 718 Peak Bandwidth: 10 kHz

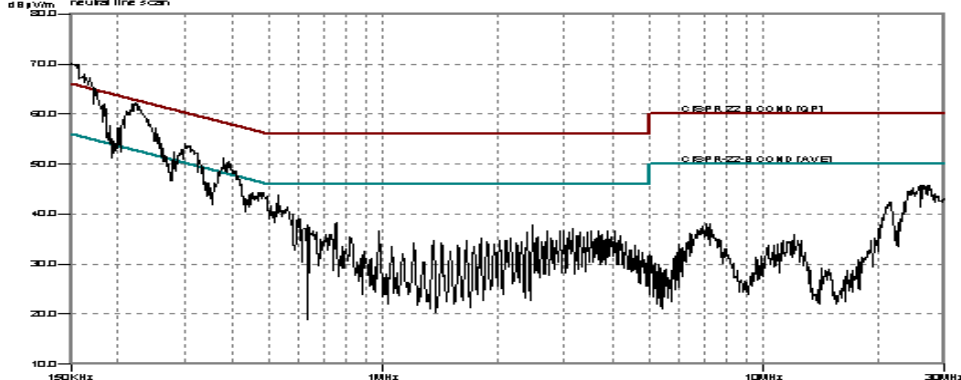
Photo ID: 4L0613E CEPV-01

Detector 2 # : 966 QP Bandwidth 10 kHz

Limiter # : _____ Avg. Bandwidth 10 kHz

Meas. Freq. (MHz)	EUT Test Point	Detector Type (P, QP, A)	Limit Type (QP, A)	Meter Reading (dBuV)	Path Loss (dB)	Transducer Factor (dB)	Corrected Reading (dBuV)	Spec. limit (dBuV)		CR/SL Diff. (dB)	Pass Fail Unc.	Comment
								Q.P.	Avg.			
0.1527	Neutral	A	A	47.0	0	0	47.0	65.85	55.852	-8.9	Pass	
0.1527	Neutral	QP	QP	56.8	0	0	56.8	65.85	55.852	-9.1	Pass	
0.2298	Neutral	A	A	36.0	0	0	36.0	62.46	52.457	-16.5	Pass	
0.2298	Neutral	QP	QP	45.2	0	0	45.2	62.46	52.457	-17.3	Pass	
0.4568	Neutral	A	A	32.5	0	0	32.5	56.75	46.751	-14.3	Pass	
0.4568	Neutral	QP	QP	36.2	0	0	36.2	56.75	46.751	-20.6	Pass	

Nemko USA, Inc. Date: 12/20/2004 Time: 09:05:14 WWS:
O SPR-22-B COMB (PVE) Test Lead: Black Sequence#: 1
neutral line scan



..\\EMCShare\\AUTOMATED\\DATASHTS\\CEP_Voltage Rev C.xls Document Control #EMC DS EM COND VOLT

Test Data – Powerline Conducted Emissions



NEMKO Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Conducted Emissions Powerline Voltage Measurement

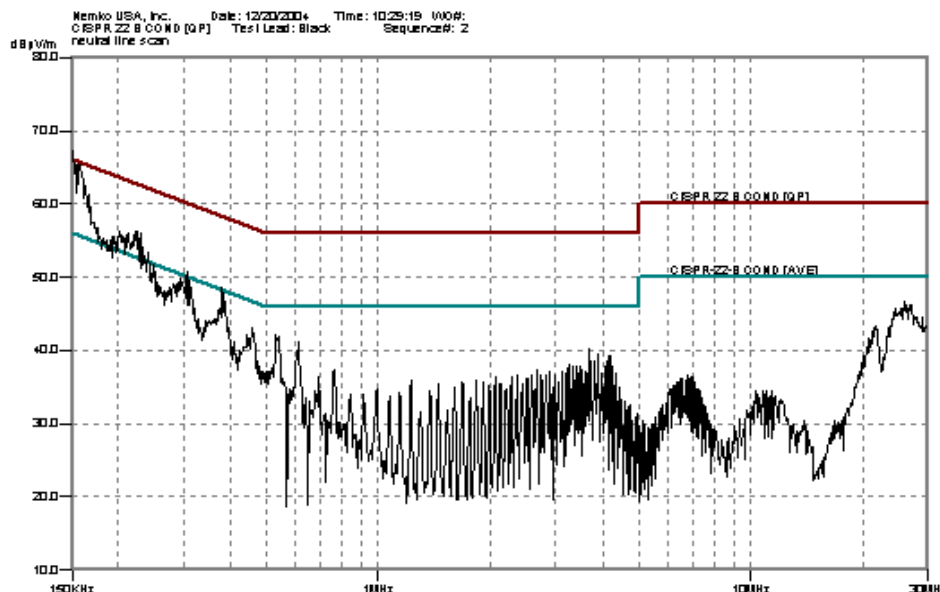
Complete X
Preliminary

Job # : 4L0613e Test # : CEPV-01
Page 2 of 2

Client Name : Motion Computing Inc.
EUT Name : LE1600 Series
EUT Model # : T004
EUT Part # : EDX20
EUT Serial # : 56
EUT Config : transmitting max power and DVD operating

Specification : FCC B Reference : EN 55022 Class B

Meas. Freq. (MHz)	EUT Test Point	Detector Type (P,QP, A)	Limit Type (QP, A)	Meter Reading (dBuV)	Path Loss (dB)	Transducer Factor (dB)	Corrected Reading (dBuV)	Spec.limit (dBuV)		CR/SL Diff. (dB)	Pass Fail Unc.	Comment
								Q.P.	Avg.			
0.1527	Hot	A	A	46.0	0.0	0.0	46.0	65.85	55.852	-9.9	Pass	
0.1527	Hot	QP	QP	57.2	0.0	0.0	57.2	65.85	55.852	-8.7	Pass	
0.2298	Hot	A	A	38.0	0.0	0.0	38.0	62.46	52.457	-14.5	Pass	
0.2298	Hot	QP	QP	47.0	0.0	0.0	47.0	62.46	52.457	-15.5	Pass	
0.4568	Hot	A	A	25.6	0.0	0.0	25.6	56.75	46.751	-21.2	Pass	
0.4568	Hot	QP	QP	35.2	0.0	0.0	35.2	56.75	46.751	-21.6	Pass	



..\\EMCShare\\AUTOMATED\\DATASHTS\\CEP_Voltage Rev C.xls Document Control #EMC DS EM COND VOLT

Photos – Powerline Conducted Emissions

Front



Side



EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4

Section 4. 26 dB Occupied Bandwidth

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 15.407(a)
TESTED BY: Tom Tidwell	DATE: 31 Dec. 2004

Test Results: Complies.

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Nemko Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
 Lewisville, TX 75057
 Tel: (972) 436-9600
 Fax: (972) 436-2667

Data Plot

Page 1 of 6

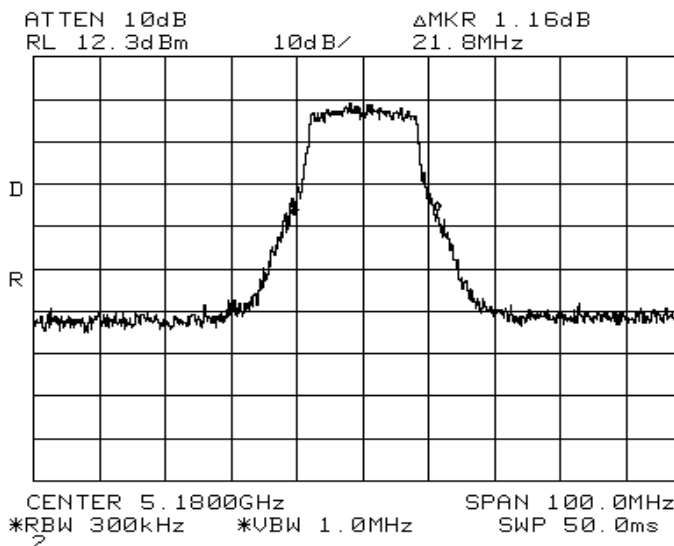
26 dB Occupied Bandwidth

Job No.: 4L0613 Date: 12/31/2004
 Specification: CFR 47, Part 15 Temperature(°C):
 Tested By: Tom Tidwell Relative Humidity(%)
 E.U.T.: Motion Computing tablet PC with Intel ABG radio module
 Configuration: Set for continuous TX power
 Sample Number:
 Location: Lab 1 RBW: Refer to plots
 Detector Type: Peak VBW: Refer to plots

Complete X
 Preliminary: _____

Test Equipment Used

Antenna: Directional Coupler:
 Pre-Amp: Cable #1: 1626
 Filter: Cable #2:
 Receiver: 1464 Cable #3:
 Attenuator #1: 1470 Cable #4:
 Attenuator #2: 1471 Mixer:
 Additional equipment used:
 Measurement Uncertainty: +/-1.7 dB



4L0613
 26 dB Bandwidth
 5180 MHz

Notes: 5180 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Nemko Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

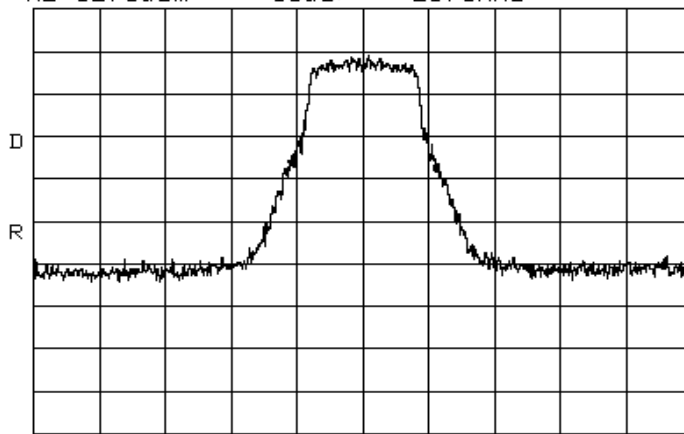
Data Plot

Page 2 of 6

26 dB Occupied Bandwidth

Job No.: 4L0613 Date: 12/31/2004
CFR 47, Part 15 Temperature(°C):
Tested By: Tom Tidwell Relative Humidity(%):
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

ATTEN 10dB Δ MKR -1.33dB
RL 12.3dBm 10dB/ 21.8MHz



4L0613
26 dB Bandwidth
5210 MHz

CENTER 5.2100GHz SPAN 100.0MHz
*RBW 300kHz *VBW 1.0MHz SWP 50.0ms
2

Notes: 5210

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

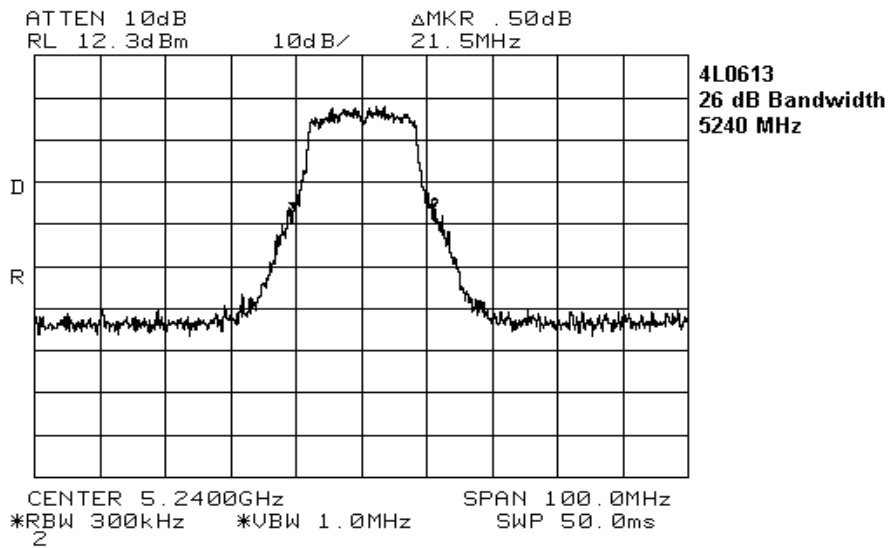
802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

Data Plot**26 dB Occupied Bandwidth**

Page 3 of 6

Job No.: 4L0613 Date: 12/31/2004
CFR 47,
Specification: Part 15 Temperature(°C):
Tested By: Tom Tidwell Relative Humidity(%)
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power



Notes: 5240 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

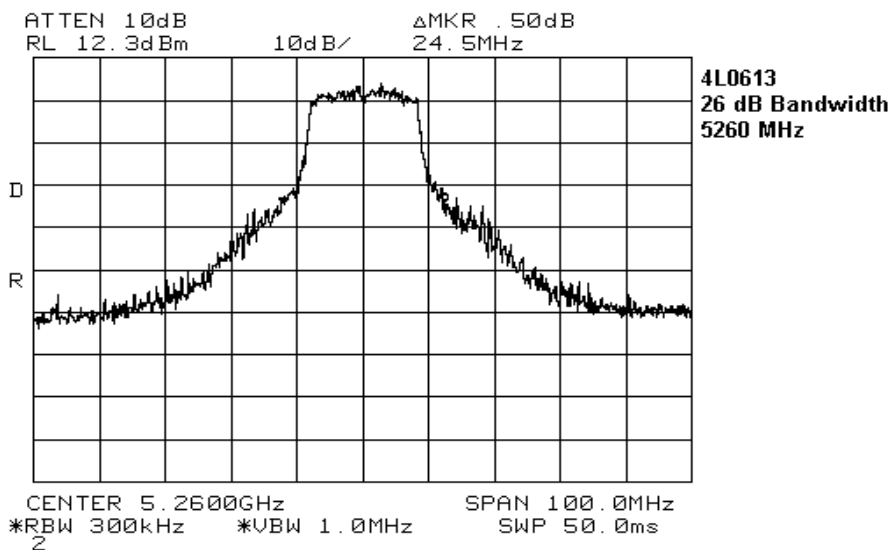
802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

Data Plot**26 dB Occupied Bandwidth**

Page 4 of 6

Job No.: 4L0613 Date: 12/31/2004
CFR 47, Part 15 Temperature(°C):
Tested By: Tom Tidwell Relative Humidity(%):
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power



Notes: 5260

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

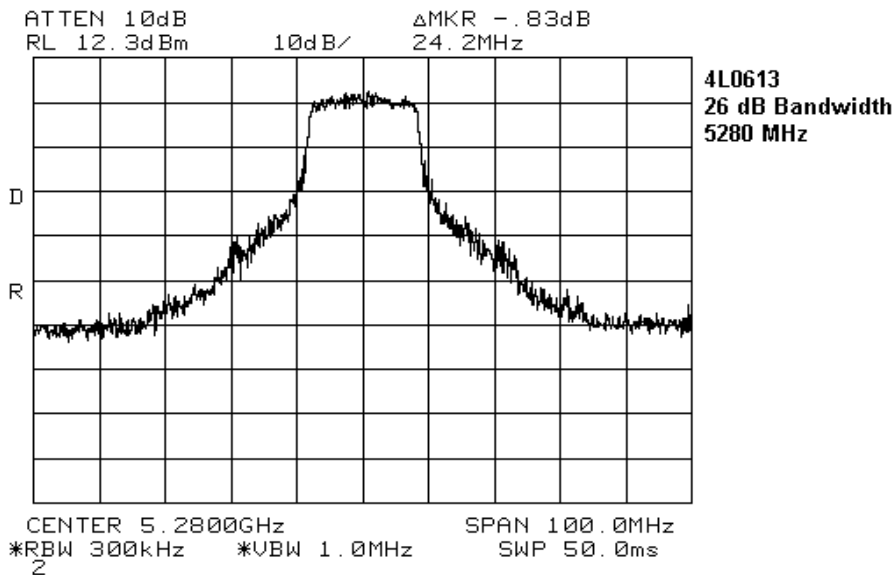
Nemko Dallas, Inc.

Data Plot

Page 5 of 6

26 dB Occupied Bandwidth

Job No.: 4L0613 Date: 12/31/2004
CFR 47, Part 15 Temperature(°C):
Tested By: Tom Tidwell Relative Humidity(%):
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power



Notes: 5280 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Nemko Dallas, Inc.

Dallas Headquarters:

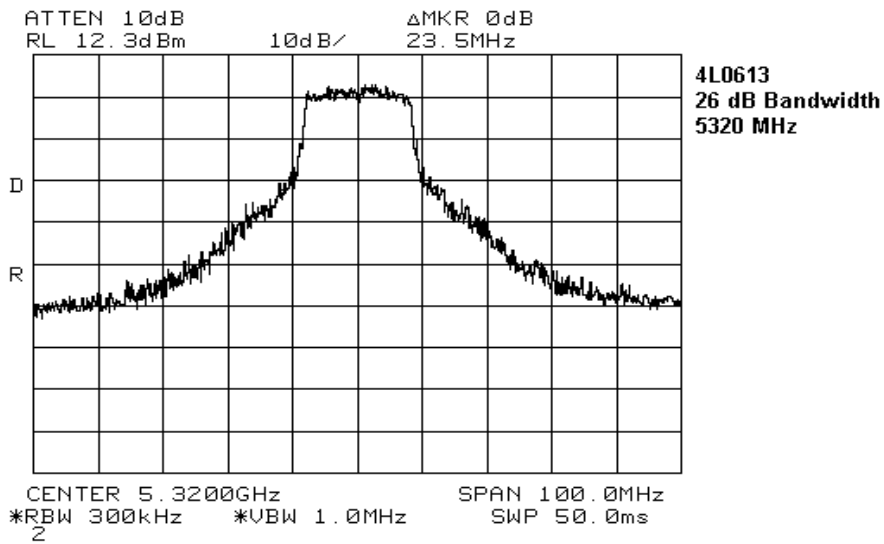
802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Data Plot

Page 6 of 6

26 dB Occupied Bandwidth

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power



Notes: 5320 MHz

Section 5. Maximum Peak Output Power

NAME OF TEST: Maximum Peak Output power	PARA. NO.: 15.407(a)
TESTED BY: Tom Tidwell	DATE: 03/13/06

- (1) For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26-dB emission bandwidth in MHz.

Limit = lesser of 50 mW(17 dBm) or 4 dBm + 10log(21.5) = 17.3 dBm

Limit = 50 mW(+17 dBm)

- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

Limit = lesser of 250 mW(24 dBm) or 11 dBm + 10log(23.5) = +24.7 dBm

Limit = 250 mW(+24 dBm)

Test Results: Complies.

Measurement Data: Refer to attached data

The measurement was repeated at +/- 15% of nominal supply voltage with no variation noted in rf power output.

Maximum Peak Power:

Frequency (MHz)	Peak Power (dBm)	Peak Power (mW)
5150 – 5250 MHz band		
5180	13.1	20.42
5210	13.3	21.4
5240	13.42	21.98
5250 – 5350 MHz band		
5260	12.72	18.7
5280	12.71	18.66
5320	12.83	19.19

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Nemko Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Peak Transmit Power

Page 1 of 6

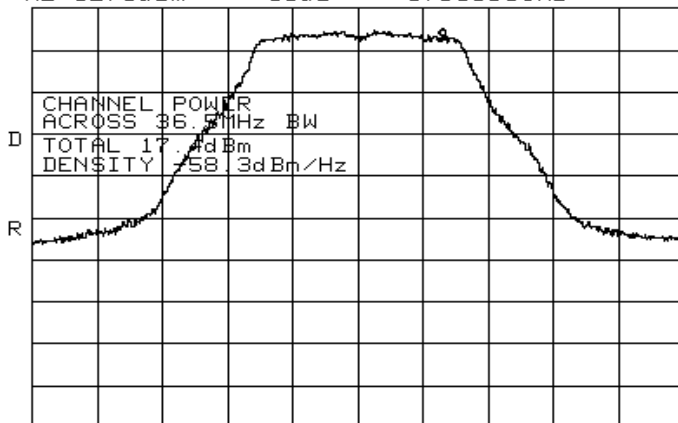
Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%): 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power
Sample Number: _____
Location: Lab 1 RBW: Refer to plots
Detector Type: Peak VBW: Refer to plots

Complete X
Preliminary: _____

Test Equipment Used

Antenna: _____ Directional Coupler: _____
Pre-Amp: _____ Cable #1: 1626
Filter: _____ Cable #2: _____
Receiver: 1464 Cable #3: _____
Attenuator #1: 1470 Cable #4: _____
Attenuator #2: 1471 Mixer: _____
Additional equipment used: _____
Measurement Uncertainty: +/-1.7 dB

ATTEN 10dB UAWG 100 MKR 5.47dBm
RL 12.3dBm 10dB/ 5.18650GHz



4L0613
Peak Transmit Power
5180 MHz

CENTER 5.18000GHz SPAN 50.00MHz
*RBW 1.0MHz *VBW 3.0MHz SWP 50.0ms
z 64.4dBm/Hz

Notes: 5180 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

Data Plot

Page 2 of 6

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

Peak Transmit Power

ATTEN 10dB UAVG 100 MKR 4.30dBm
RL 12.3dBm 10dB/ 5.21650GHz



4L0613
Peak Transmit Power
5210 MHz

CENTER 5.21000GHz SPAN 50.00MHz
*RBW 1.0MHz *VBW 3.0MHz SWP 50.0ms
z 64.4dBm/Hz

Notes: 5210 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

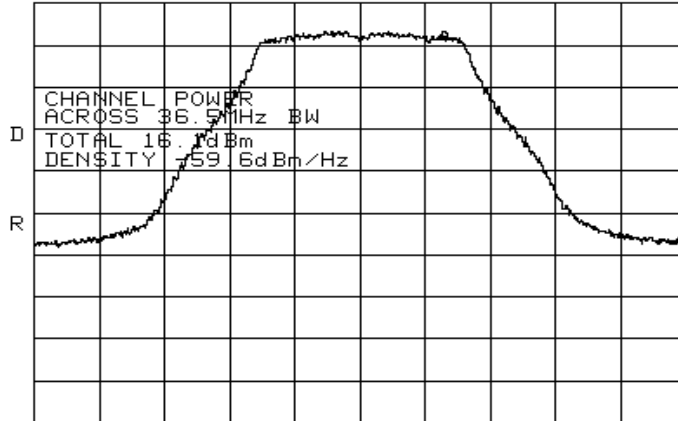
Data Plot

Page 3 of 6

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

Peak Transmit Power

ATTEN 10dB UAVG 100 MKR 3.80dBm
RL 12.3dBm 10dB/ 5.24650GHz



4L0613
Peak Transmit Power
5240 MHz

CENTER 5.24000GHz SPAN 50.00MHz
*RBW 1.0MHz *VBW 3.0MHz SWP 50.0ms
Z

Notes: 5240 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

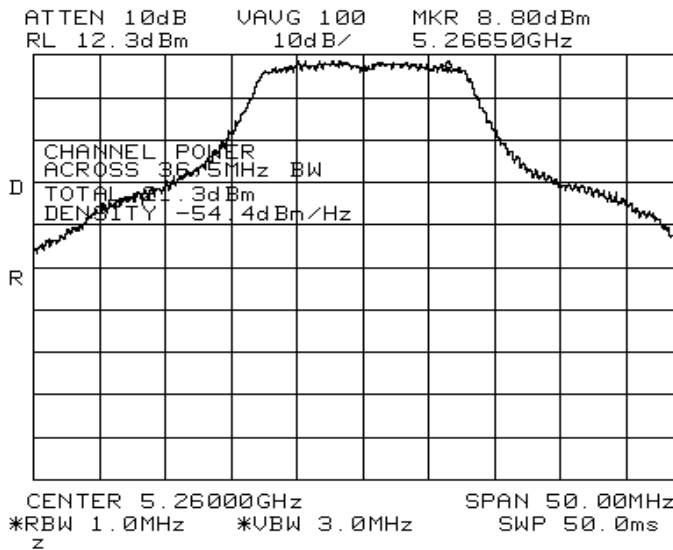
Nemko Dallas, Inc.

Data Plot

Page 4 of 6

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

Peak Transmit Power



4L0613
Peak Transmit Power
5260 MHz

Notes: 5260 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

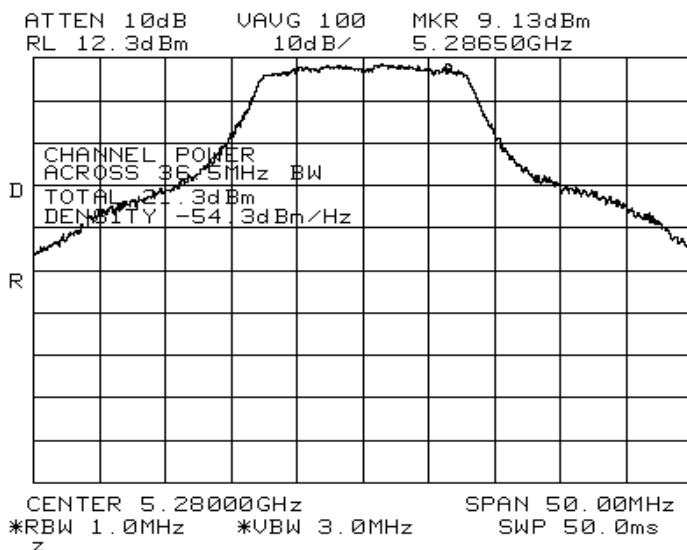
Nemko Dallas, Inc.

Data Plot

Page 5 of 6

Peak Transmit Power

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power



Notes: 5280 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

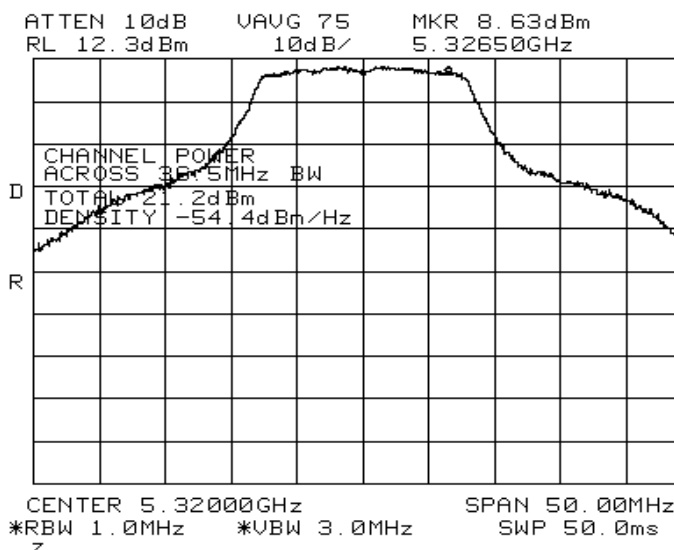
Nemko Dallas, Inc.

Data Plot

Page 6 of 6

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

Peak Transmit Power



4L0613
Peak Transmit Power
5320 MHz

Notes: 5320 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4

Section 6. Peak Excursion

NAME OF TEST: RF Exposure	PARA. NO.: 15. 407
TESTED BY: Tom Tidwell	DATE: 12/31/04

Test Results: Maximum excursion = 7.3 dB.

Measurement Data: See attached plots

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Nemko Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Peak Excursion

Page 1 of 6

Complete X

Preliminary: _____

Job No.: 4L0613 Date: 12/31/2004

Specification: CFR 47, Part 15 Temperature(°C): 23

Tested By: Tom Tidwell Relative Humidity(%) 52

E.U.T.: Motion Computing tablet PC with Intel ABG radio module

Configuration: Set for continuous TX power

Sample Number: _____

Location: Lab 1

RBW: Refer to plots

Detector Type: Peak

VBW: Refer to plots

Test Equipment Used

Antenna: _____

Directional Coupler: _____

Pre-Amp: _____

Cable #1: 1626

Filter: _____

Cable #2: _____

Receiver: 1464

Cable #3: _____

Attenuator #1: 1470

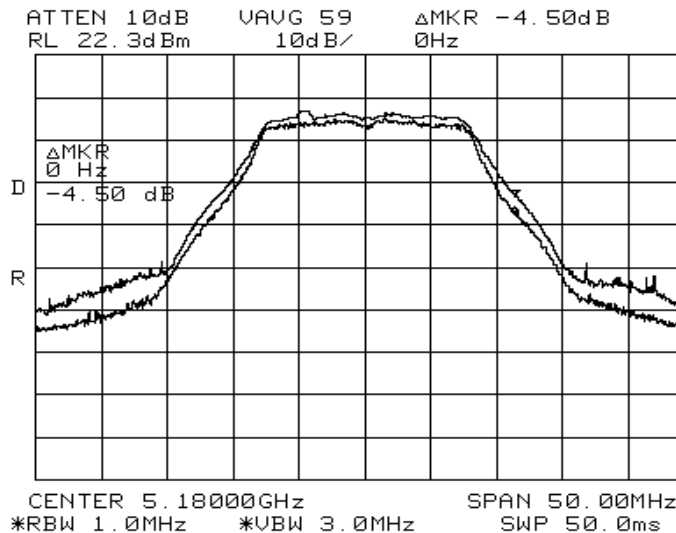
Cable #4: _____

Attenuator #2: 1471

Mixer: _____

Additional equipment used: _____

Measurement Uncertainty: +/-1.7 dB



Notes: 5180 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

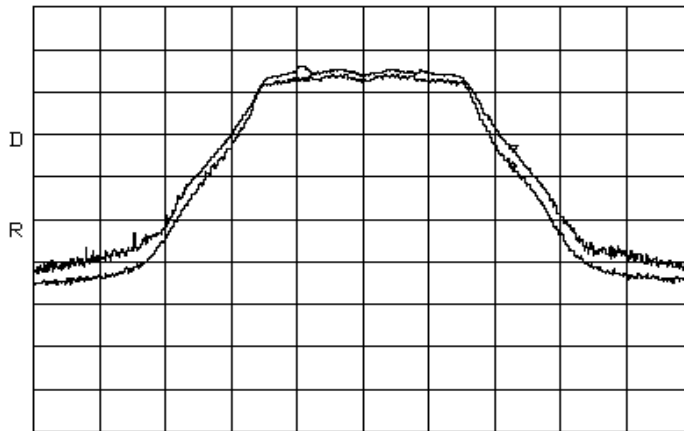
Data Plot

Page 2 of 6

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

Peak Excursion

ATTEN 10dB VAUG 100 ΔMKR -4.50dB
RL 22.3dBm 10dB/ 0Hz



CENTER 5.21000GHz SPAN 50.00MHz
*RBW 1.0MHz *VBW 3.0MHz SWP 50.0ms

Notes: 5210 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

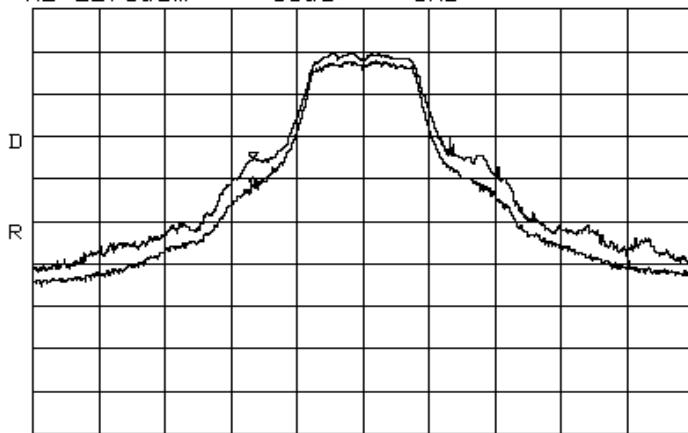
Data Plot

Page 3 of 6

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

Peak Excursion

ATTEN 10dB VAUG 100 ΔMKR -6.33dB
RL 22.3dBm 10dB/ 0Hz



CENTER 5.3200GHz SPAN 100.0MHz
*RBW 1.0MHz *VBW 3.0MHz SWP 50.0ms

Notes: 5240 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

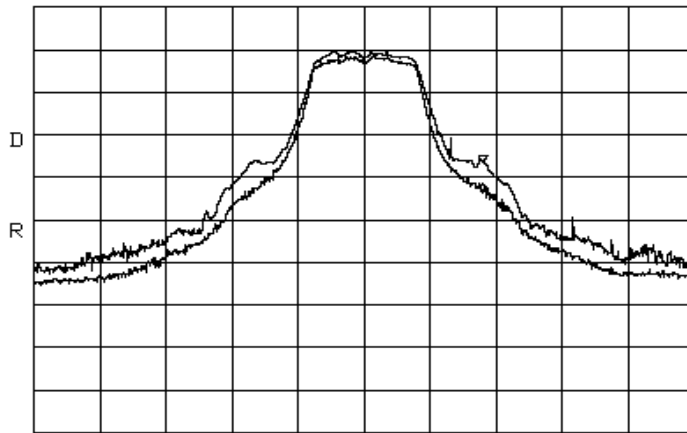
Data Plot

Page 4 of 6

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

Peak Excursion

ATTEN 10dB VAUG 50 ΔMKR -7.17dB
RL 22.3dBm 10dB/ 0Hz



4L0613
Peak Excursion
5260 MHz

CENTER 5.2600GHz SPAN 100.0MHz
*RBW 1.0MHz *VBW 3.0MHz SWP 50.0ms

Notes: 5260 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

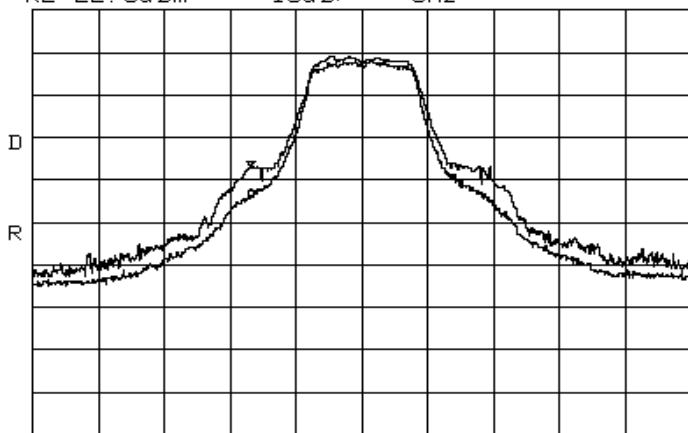
Data Plot

Page 5 of 6

Job No.: 4L0613 Date: 12/31/2004
Specification: CFR 47, Part 15 Temperature(°C): 23
Tested By: Tom Tidwell Relative Humidity(%) 52
E.U.T.: Motion Computing tablet PC with Intel ABG radio module
Configuration: Set for continuous TX power

Peak Excursion

ATTEN 10dB VAUG 100 ΔMKR -7.34dB
RL 22.3dBm 10dB/ 0Hz



4L0613
Peak Excursion
5280 MHz

CENTER 5.2800GHz SPAN 100.0MHz
*RBW 1.0MHz *VBW 3.0MHz SWP 50.0ms

Notes: 5280 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:
802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.

Data Plot		Peak Excursion	
Page 6 of 6			
Job No.:	4L0613	Date:	12/31/2004
Specification:	CFR 47, Part 15	Temperature(°C):	23
Tested By:	Tom Tidwell	Relative Humidity(%)	52
E.U.T.:	Motion Computing tablet PC with Intel ABG radio module		
Configuration:	Set for continuous TX power		

ATTEN 10dB VAUG 100 ΔMKR -6.33dB
RL 22.3dBm 10dB/ 0Hz

CENTER 5.3200GHz SPAN 100.0MHz
*RBW 1.0MHz *VBW 3.0MHz SWP 50.0ms

Notes:	5320 MHz

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4

Section 7. Spurious Emissions (radiated)

NAME OF TEST: Spurious Emissions (Radiated)	PARA. NO.: 15.247 (c)
TESTED BY: David Light	DATE: 1/29/04

Test Results: Complies.

Measurement Data: See attached table.

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4

Test Data – Radiated Emissions

<u>Radiated Emissions</u>								
Page <u>1</u> of <u>1</u>								
Job No.: 4L0613		Date: 12/28/2004						
Specification: 15.247/15.205		Temperature(°C): <u>20</u>						
Tested By: David Light		Relative Humidity(%) <u>50</u>						
E.U.T.: TABLET PC								
Configuration: Upright on long edge - Continuous transmit @ 54 Mbps - 802.11a								
Sample Number: 1								
Location: AC 3		RBW: 1 MHz						
Detector Type: Peak		Peak VBW: 1 MHz						
		Avg VBW 10 Hz						
<u>Test Equipment Used</u>								
Antenna: 1304		Directional Coupler: #N/A						
Pre-Amp: 1016		Cable #1: 1484						
Filter: 1650		Cable #2: 1485						
Receiver: 1464		Cable #3: #N/A						
Attenuator #1: #N/A		Cable #4: #N/A						
Attenuator #2: #N/A		Mixer: #N/A						
Additional test equipment: 988-983-991-992								
Measurement Uncertainty: +/- 3.6 dB								
Frequency (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Pre-Amp Gain (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector / Polarity
								Tx 5825 MHz
11650	47.0	39.0	7.2	35.4	57.8	74	54	Peak/Horizontal
11650	36.0	39.0	7.2	35.4	46.8	74	54	Avg/Horizontal
11650	47.0	39.0	7.2	35.4	57.8	74	54	Peak/Vertical
11650	35.6	39.0	7.2	35.4	46.4	74	54	Avg/Vertical
								Tx 5785 MHz
11570	45.0	39.0	7.2	35.4	55.8	74	54	Peak/Horizontal
11570	36.5	39.0	7.2	35.4	47.3	74	54	Avg/Horizontal
11570	45.0	39.0	7.2	35.4	55.8	74	54	Peak/Vertical
11570	34.2	39.0	7.2	35.4	45.0	74	54	Avg/Vertical
								Tx 5745 MHz
11490	45.0	39.0	7.2	35.4	55.8	74	54	Peak/Horizontal
11490	34.6	39.0	7.2	35.4	45.4	74	54	Avg/Horizontal
11490	45.0	39.0	7.2	35.4	55.8	74	54	Peak/Vertical
11490	34.6	39.0	7.2	35.4	45.4	74	54	Avg/Vertical
Notes: Scanned all emissions to 40 GHz								
No emissions were detected above the noise floor								

Radiated Photographs



EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4

Section 8. Peak Power Spectral Density

NAME OF TEST: Peak Power Spectral Density	PARA. NO.: 15.247(d)
TESTED BY: Tom Tidwell	DATE: 12/31/04

Test Results: Complies.

Measurement Data: See attached data.

EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Nemko Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Data Plot

Page 1 of 6

Peak Power Spectral Density

Job No.: 410613

Date: 12/31/2004

Complete X

Preliminary: _____

Specification:

Temperature(°C): 23

Tested By:

Tom Tidwell

Relative Humidity(%) 52

E.U.T.:

Motion Computing tablet PC with Intel ABG modem

Configuration:

Set for continuous TX

Sample Number:

Location:

Lab 1

RBW: Refer to plots

Detector Type:

Peak

VBW: Refer to plots

Test Equipment Used

Antenna:

Directional Coupler:

Pre-Amp:

Cable #1: 1626

Filter:

Cable #2:

Receiver:

1036

Cable #3:

Attenuator #1:

1470

Cable #4:

Attenuator #2:

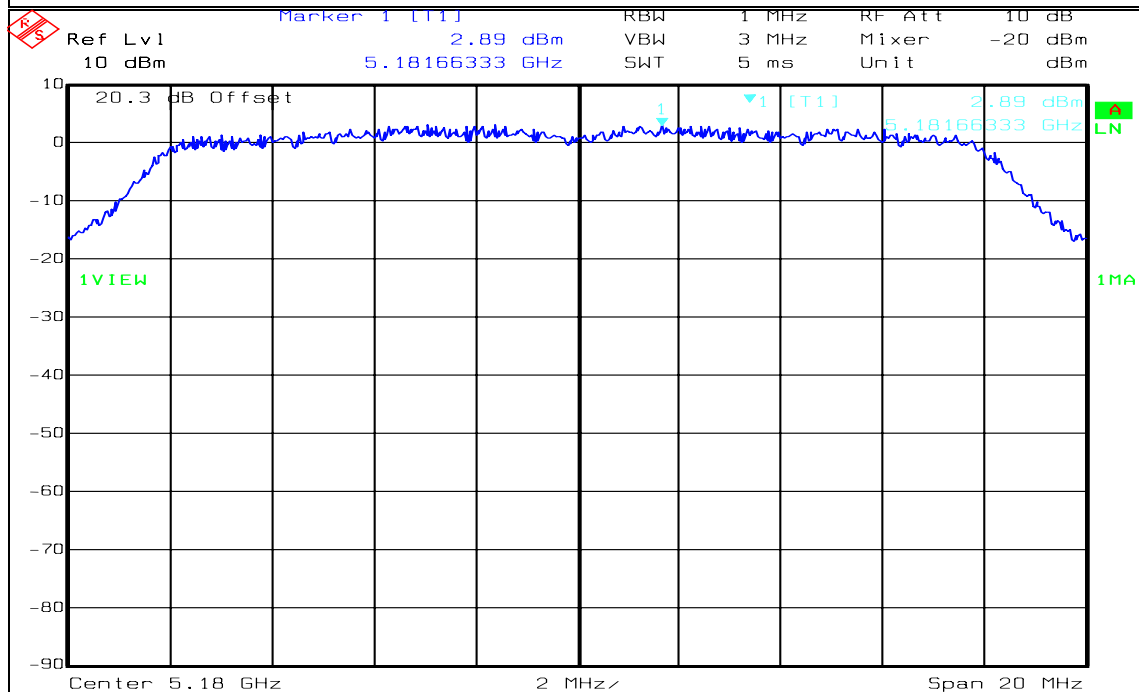
1471

Mixer:

Additional equipment used:

Measurement Uncertainty:

+/-0.7 dB



Notes: 5180 MHz

54 Mbps

Limit = +4 dBm

EQUIPMENT: T004

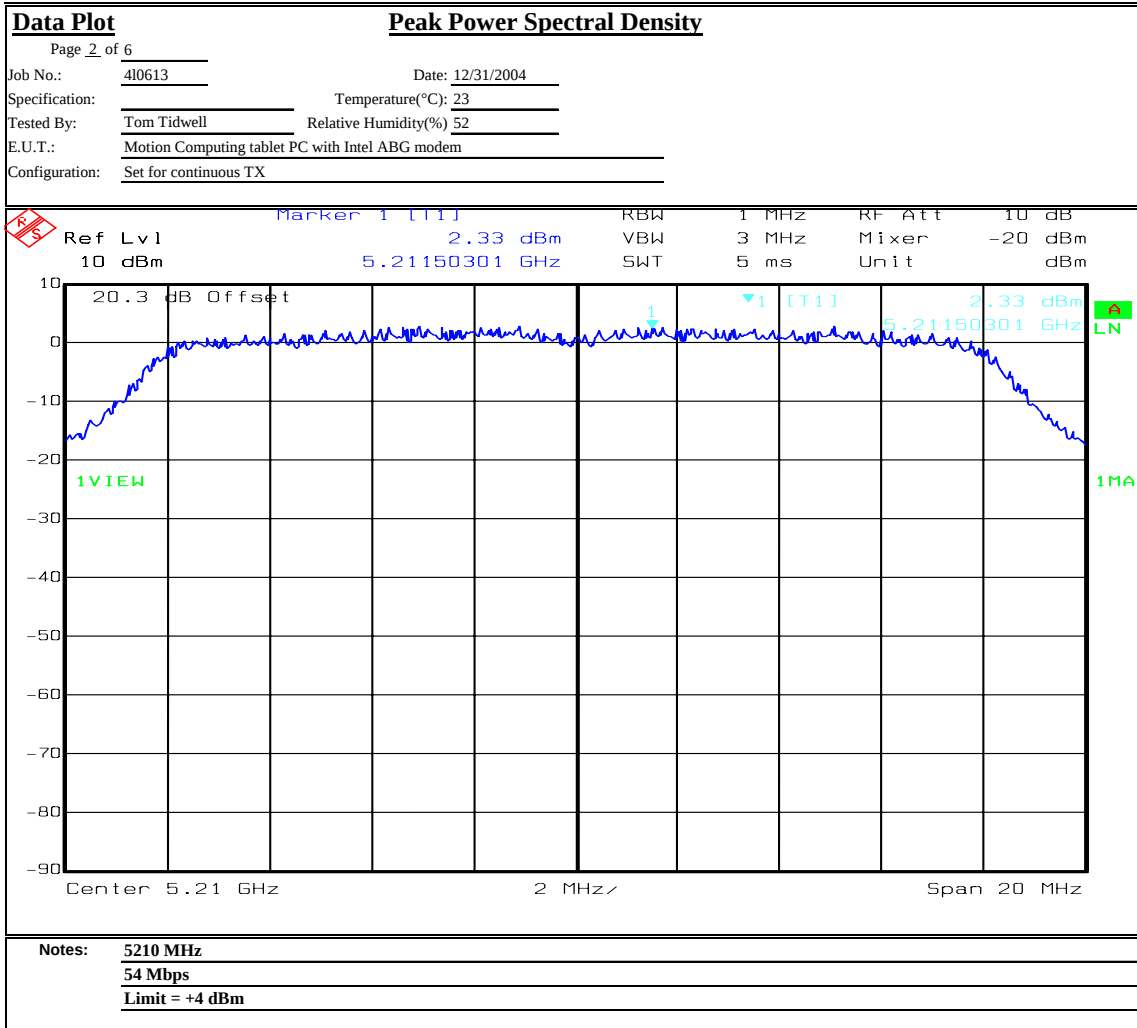
TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.



EQUIPMENT: T004

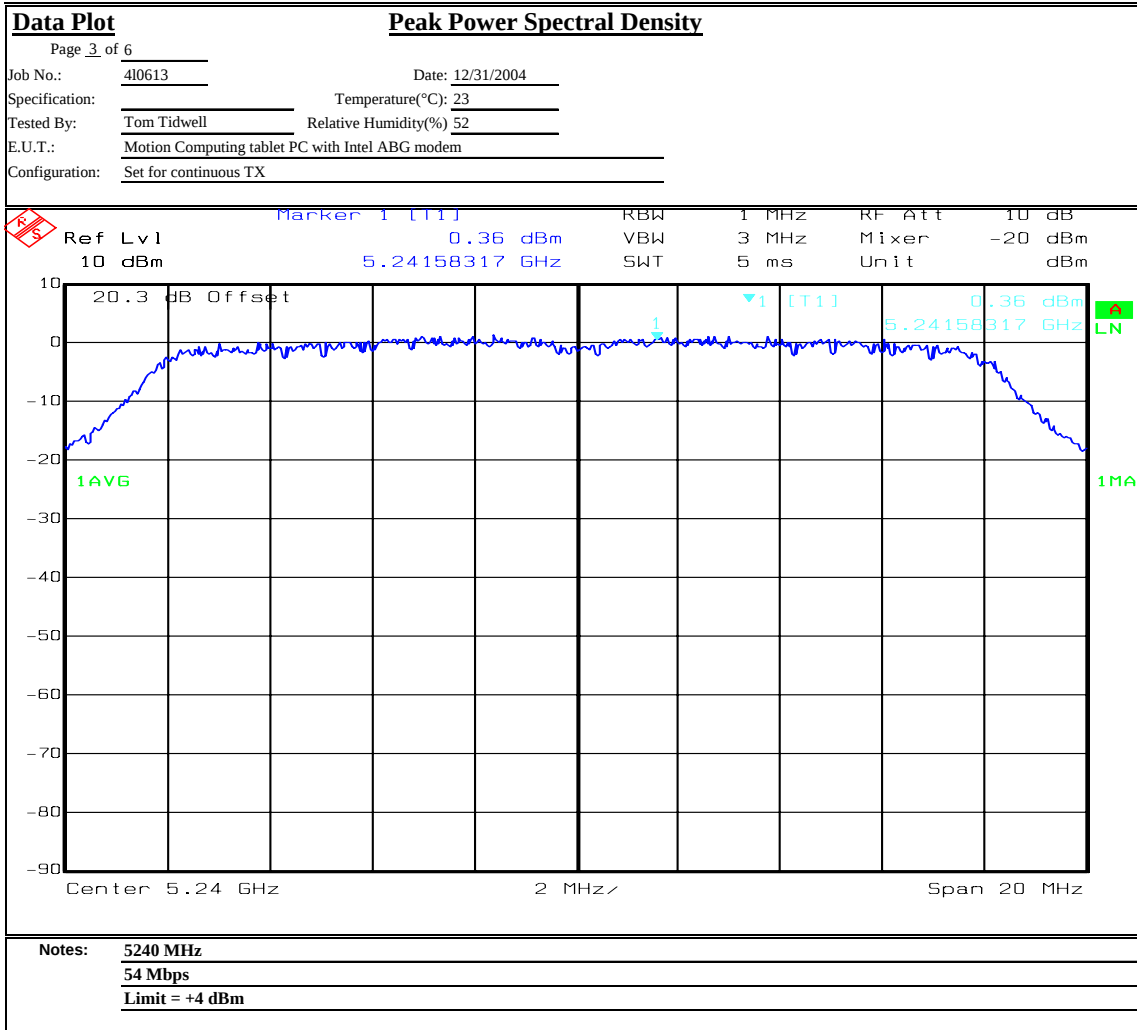
TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.



EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4



Nemko Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Data Plot

#N/A

Page 4 of 6

Job No.: 4l0613

Date: 12/31/2004

Complete X

Preliminary: _____

Specification:

Temperature(°C): 23

Tested By: #N/A

Relative Humidity(%) 52

E.U.T.:

Motion Computing tablet PC with Intel ABG modem

Configuration:

Set for continuous TX

Sample Number:

Location:

#N/A

RBW: #N/A

Detector Type:

#N/A

VBW: #N/A

Test Equipment Used

Antenna:

#N/A

Directional Coupler:

#N/A

Pre-Amp:

#N/A

Cable #1: 1626

Filter:

#N/A

Cable #2: #N/A

Receiver:

#N/A

Cable #3: #N/A

Attenuator #1:

#N/A

Cable #4: #N/A

Attenuator #2:

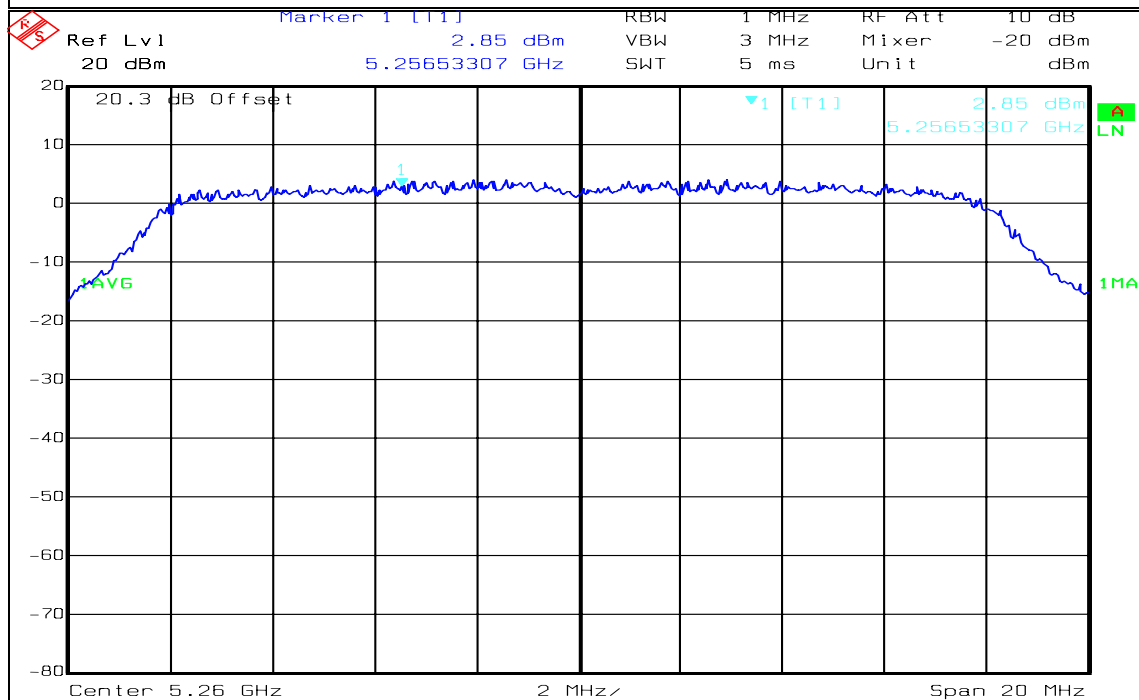
#N/A

Mixer: #N/A

Additional equipment used:

Measurement Uncertainty:

+/-1.7 dB



Notes: 5260 MHz

54 Mbps

Limit = +11 dBm

EQUIPMENT: T004

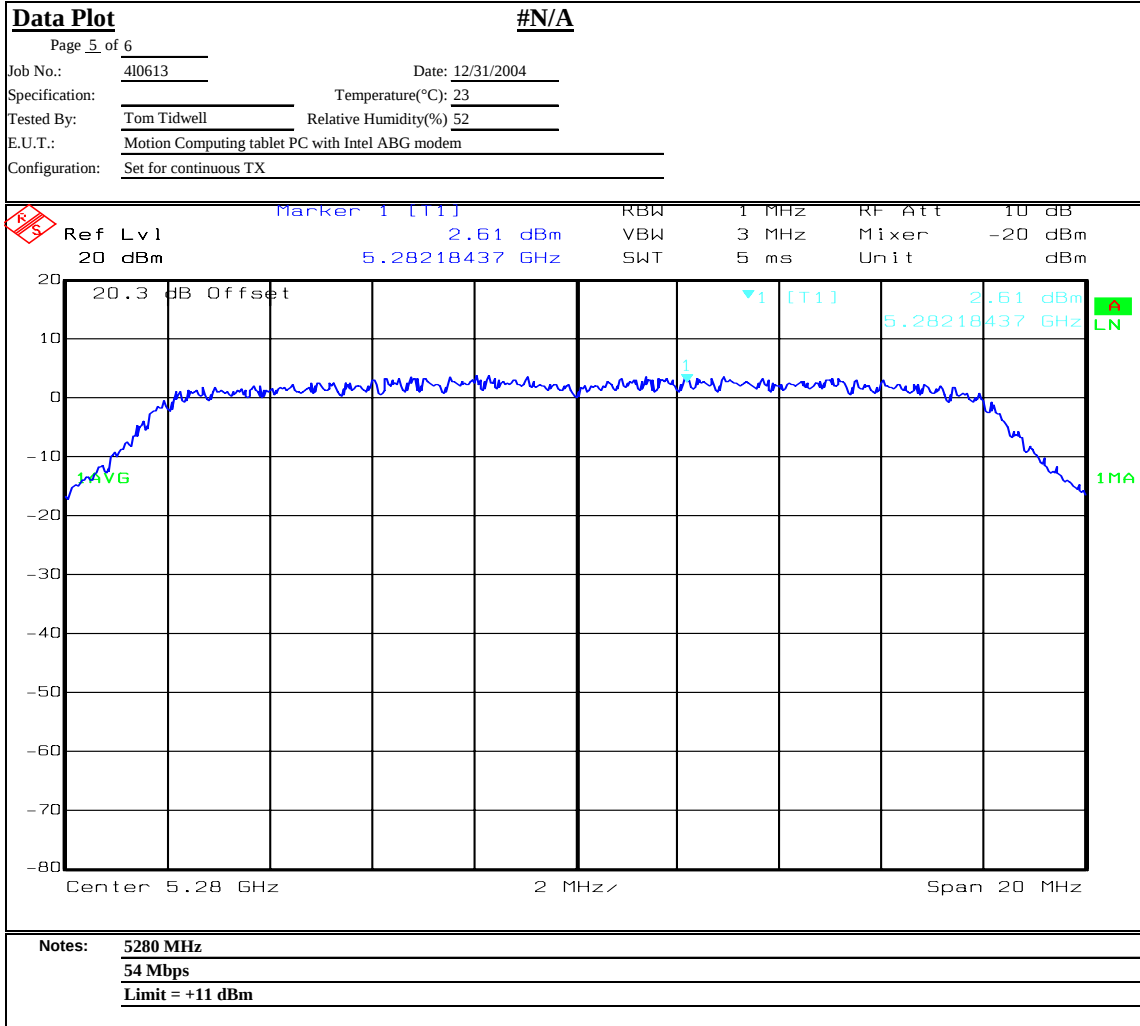
TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.



EQUIPMENT: T004

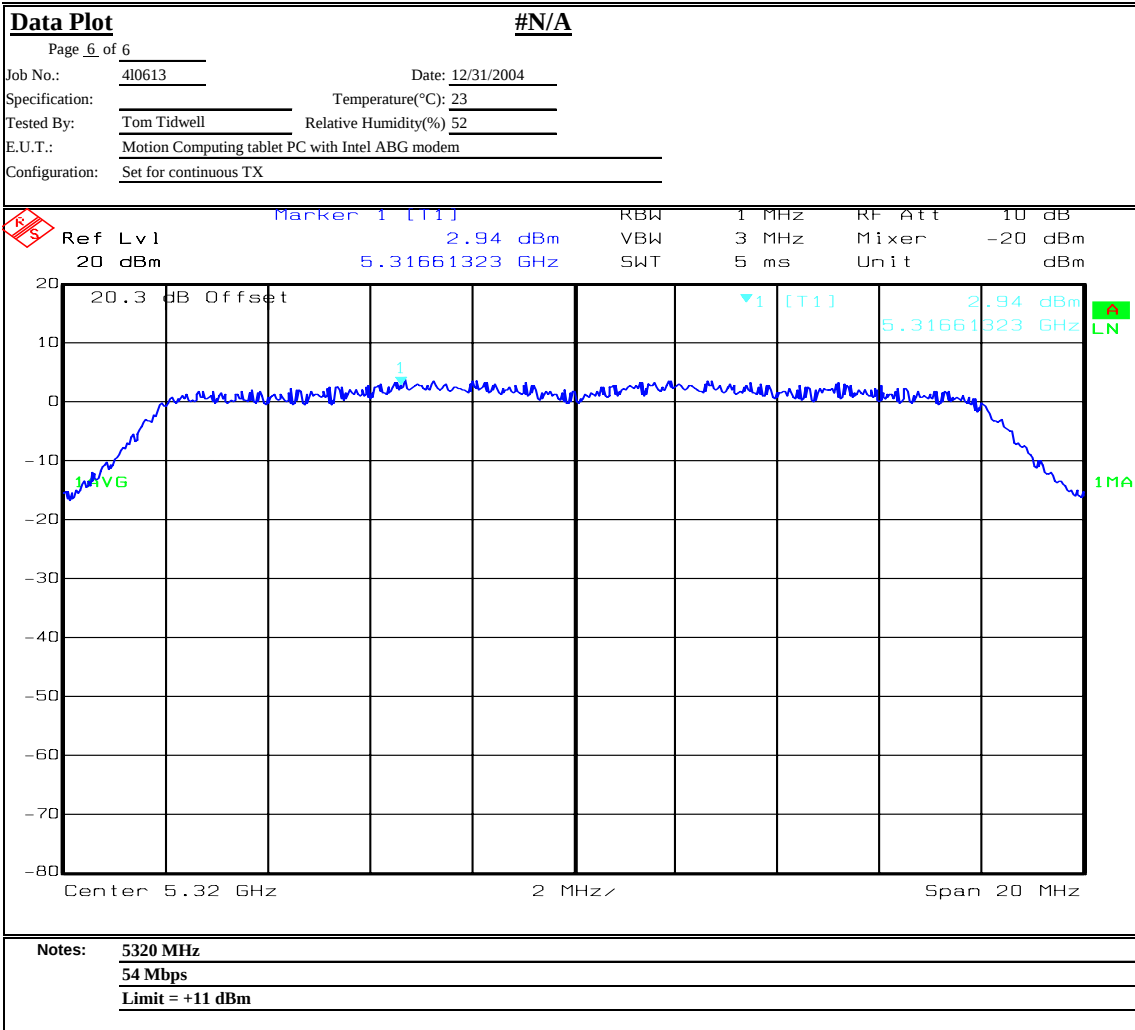
TEST REPORT NO.: 4L0613RUS2Rev4



Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

Nemko Dallas, Inc.



EQUIPMENT: T004

TEST REPORT NO.: 4L0613RUS2Rev4

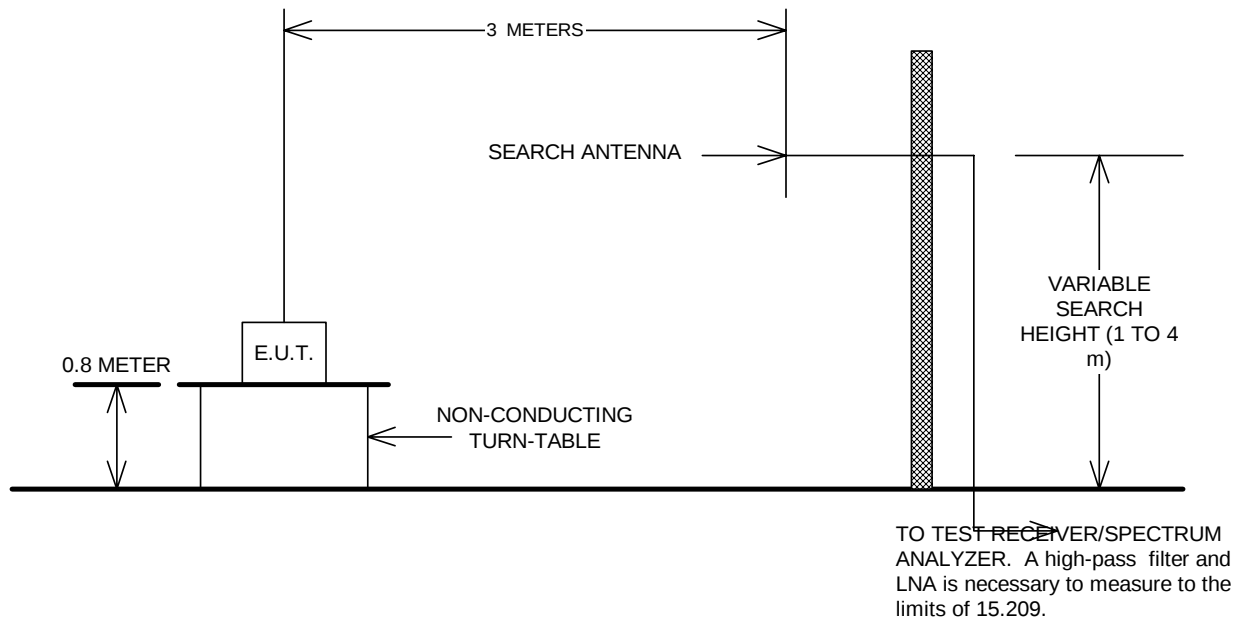
Section 9. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	03/22/04	03/23/06
1626	CABLE, 5 ft	MEGAPHASE 10311 1GVT4	N/A	CBU	N/A
1471	10 db Attenuator DC 18 Ghz	MCL Inc. BW-S10W2 10db-2WDC	NONE	CBU	N/A
1470	10 db Attenuator DC 18 Ghz	MCL Inc. BW-S10W2 10db-2WDC	NONE	CBU	N/A
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	01/14/05	01/15/07
969	lisn	Schwarzbeck 8120	8120281	09/17/04	09/17/05
1433	High pass filter	Solar 7930-5.0	933142	02/04/04	02/03/05
1129	CABLE, 9.5m	KTL RG58	N/A	06/09/04	06/09/05
1998	CABLE, 1m	KTL RG223	N/A	06/09/04	06/09/05
718	HP SPECTRUM ANALYZER	HEWLETT PACKARD 8591EM	3639A00980	02/11/04	02/10/05
966	Receiver	Rohde & Schwartz ESH2	880370/029	09/20/04	09/20/05
1304	HORN ANTENNA	ELECTRO METRICS RGA-60	6151	09/22/03	09/22/05
1484	Cable 2.0-18.0 Ghz	Storm PR90-010-072	N/A	08/26/04	08/26/05
1485	Cable 2.0-18.0 Ghz	Storm PR90-010-216	N/A	08/02/04	08/02/05
760	Antenna biconical	Electro Metrics MFC-25	477	06/22/04	06/22/05
759	ANTENNA, LOG PERIODIC	A.H. SYSTEMS SAS-200/510	556	07/23/04	07/23/05
791	PREAMP, 25dB	ICC LNA25	398	11/12/04	11/12/05
1983	CABLE	KTL Site A OATS	N/A	03/11/04	03/11/05

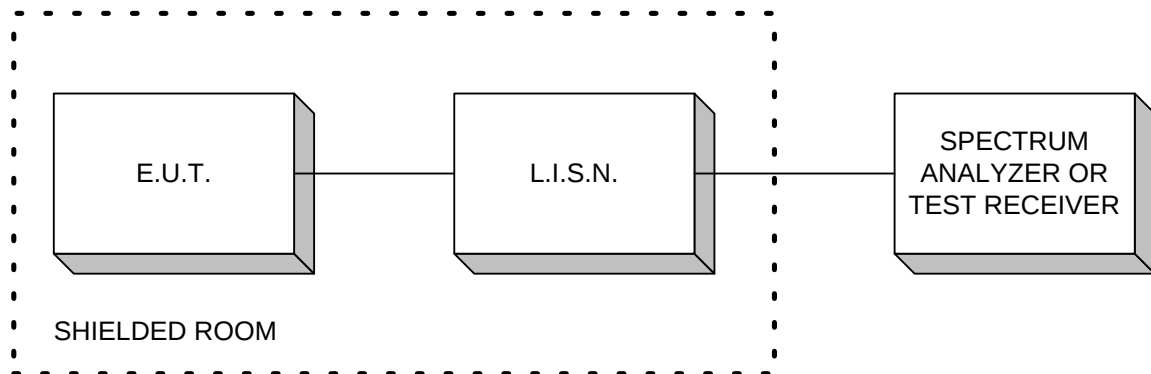
ANNEX A - TEST DETAILS

ANNEX B - TEST DIAGRAMS

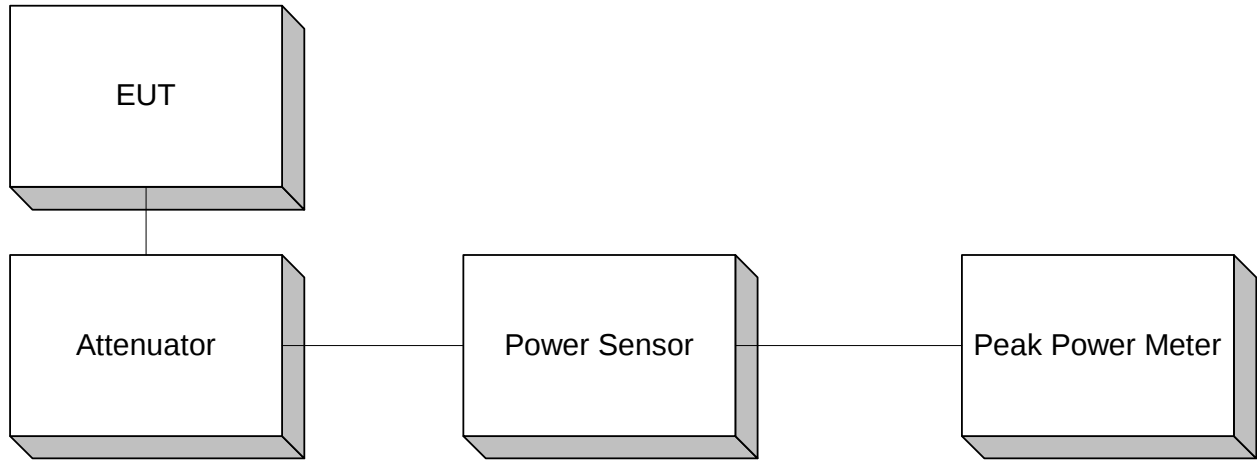
Test Site For Radiated Emissions



Conducted Emissions



Peak Power At Antenna Terminals



**Occupied Bandwidth
Peak Power Spectral Density
Spurious Emissions (conducted)
Peak Excursion**

