TEST REPORT

Test Report No. : UL-RPT-RP88249JD02A V4.0

Manufacturer	:	Enfora Inc.
Model No.	:	RTT2211
FCC ID	:	MIVRTT2211
IC ID	:	4160A- RTT2211
Test Standard(s)	:	FCC Parts 22.913(a) & 24.232; Industry Canada RSS-132 4.4 & RSS-133 6.4

1. This test report shall not be reproduced in full or partial, without the written approval of RFI Global Services Ltd trading as UL.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above standard(s).
4. The test results in this report are traceable to the national or international standards.
5. Version 4.0 supersedes all previous versions.

Date of Issue: 21 December 2012

Checked by:

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WiSE Project Lead

Issued by :

pp

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ilac-MRA UKAS TESTING 0644

This laboratory is accredited by UKAS. The tests reported herein have been performed in accordance with its' terms of accreditation.

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Table of Contents

1. Customer Information

Company Name:	Enfora Inc.
Address:	251 Renner Parkway Richardson Texas TX 75080 United States

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR22
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2012: Part 22 Subpart H (Public Mobile Services)
Specification Reference:	47CFR24
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2012: Part 24 Subpart E (Personal Communication Services)
Specification Reference:	RSS-132 Issue 2 Sep 2005
Specification Title:	Cellular Telephones Employing New Technologies Operating in the Bands 824-849 MHz and 869-894 MHz
Specification Reference:	SRSP-503 Issue 7 Sep 2008
Specification Title:	Technical Requirements for Cellular Radiotelephone Systems Operating in the Bands 824 – 849 MHz and 869 – 894 MHz
Specification Reference:	RSS-133 Issue 5 Feb 2009
Specification Title:	2 GHz Personal Communications Services
Specification Reference:	SRSP-510 Issue 5 Feb 2009
Specification Title:	Technical Requirements for Personal Communications Services (PCS) in the Bands 1850-1915 MHz and 1930-1995 MHz
Site Registration:	FCC: 209735; Industry Canada: 3245B-2
Location of Testing:	RFI Global Services Ltd trading as UL, Wade Road, Basingstoke, Hampshire, RG24 8AH
Test Dates:	20 December 2012

Summary of Test Results

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 22 & RSS-132			
Part 22.913(a)	RSS-132 4.4 SRSP-503 5.1.3	Transmitter Output Power (ERP)	
Part 24 & RSS-133			
Part 24.232	RSS-133 6.4 SRSP-510 5.1.2	Transmitter Output Power (EIRP)	
Key to Results = Complied = Did not comply			

2.2. Methods and Procedures

Reference:	ANSI/TIA-603-C-2004
Title:	Land Mobile Communications Equipment, Measurements and performance Standards

2.3. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	MT 3050
Model Name or Number:	ABBA RTT2211
MEID:	A1000013C3E962
Hardware Version Number:	1
Software Version Number:	10.2
FCC ID:	MIVRTT2211
Industry Canada ID:	4160A- RTT2211

3.2. Description of EUT

The equipment under test was a Mobile Tracker OBD with 1xRTT CDMA capabilities. Contains FCC ID MIVCNN0301 and Industry Canada Certification Number 4160A-CNN0301.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Type of Radio Device:	Transceiver		
Mode:	CDMA2000		
Modulation Type:	O-QPSK		
Power Supply Requirement(s):	Nominal	12 VDC	
Technology Tested:	CDMA US Cellular (Band Class 0)		
Transmit Frequency Range:	824 to 849 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	1013	824.70
	Middle	384	836.51
	Top	777	848.31
Transmit Frequency Range:	1850 to 1910 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	25	1851.25
	Middle	600	1880.00
	Top	1175	1908.75

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating mode(s):

- Constantly transmitting at full power on bottom, middle and top channels as required.
- ERP/EIRP tests were performed with the EUT in SO55 mode and SO02 mode.

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- Connected to a CDMA2000 system simulator, operating in transceiver mode.

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6. Measurement Uncertainty* for details.

In accordance with UKAS requirements all the measurement equipment is on a calibration schedule.

5.2. Test Results – Part 22

5.2.1. Transmitter Output Power (ERP)

Test Summary:

Test Engineer:	Sandeep Bharat	**Test Date:**	20 December 2012
Test Sample MEID:	A1000013C3E962		

FCC Part:	22.913(a)
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.17.2

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	36

Results: CDMA2000 SO55

Channel	Frequency (MHz)	Antenna Polarity	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Result
Bottom	824.70	Vertical	24.9	38.45	13.55	Complied
Middle	836.51	Vertical	23.6	38.45	14.85	Complied
Top	848.31	Vertical	20.5	38.45	17.95	Complied

Results: CDMA2000 SO02

Channel	Frequency (MHz)	Antenna Polarity	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Result
Bottom	824.70	Vertical	24.1	38.45	14.35	Complied
Middle	836.51	Vertical	23.8	38.45	14.65	Complied
Top	848.31	Vertical	19.9	38.45	18.55	Complied

Note(s):

1. SRSP-503 states the limit as an EIRP value of 11.5 Watts (40.6 dBm) which equates to an ERP limit of 7 Watts (38.45 dBm)

Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (months)
A1396	Attenuator	Huber & Suhner	6810.17.B	757987	06 Jul 2013	12
A288	Antenna	Chase	CBL6111A	1589	15 Aug 2013	12
S0537	DC Power Supply	TTI	EL302D	N/A	Calibration not required	N/A
M1269	Multimeter	Fluke	179	90250210	30 Jul 2013	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	04 Nov 2013	12
M1662	Radio Tester	Rohde & Schwarz	CMU 200	1100.0008.02	21 May 2013	12

5.3. Test Results – Part 24

5.3.1. Transmitter Output Power (EIRP)

Test Summary:

Test Engineer:	Sandeep Bharat	**Test Date:**	20 December 2012
Test Sample MEID:	A1000013C3E962		

FCC Part:	24.232
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.17.2

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	36

Results: CDMA2000 SO55

Channel	Frequency (MHz)	Antenna Polarity	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1851.25	Vertical	25.6	33.0	7.4	Complied
Middle	1880.00	Vertical	24.8	33.0	8.2	Complied
Top	1908.75	Vertical	22.2	33.0	10.8	Complied

Results: CDMA2000 SO02

Channel	Frequency (MHz)	Antenna Polarity	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1851.25	Vertical	24.0	33.0	9	Complied
Middle	1880.00	Vertical	24.6	33.0	8.4	Complied
Top	1908.75	Vertical	22.7	33.0	10.3	Complied

Test Equipment Used:

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
A032	Antenna	EMCO	3115	2874	03 Mar 2013	12
A1396	Attenuator	Huber & Suhner	6810.17.B	757987	06 Jul 2013	12
S0537	DC Power Supply	TTI	EL302D	N/A	Calibration not required	N/A
M1269	Multimeter	Fluke	179	90250210	30 Jul 2013	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	04 Nov 2013	12
M1662	Radio Tester	Rohde & Schwarz	CMU 200	1100.0008.02	21 May 2013	12

6. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
Effective Radiated Power (ERP)	824 to 849 MHz	95%	±2.94 dB
Effective Isotropic Radiated Power (EIRP)	1850 to 1910 MHz	95%	±2.94 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	**Clause**	**Details**
1.0	-	-	Initial Version
2.0	-	-	FCC ID added
3.0	-	-	Title page updated
4.0	-	-	Inclusion of ERP/EIRP verification results