TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: DataSend900-GPRS

FCC ID: MS8C9P

To: FCC Part 22.913 and Part 24.232

Test Report Serial No:
RFI-RPT-RP79172JD04A

This Test Report Is Issued Under The Authority Of Scott D'Adamo, Operations Manager Global Approvals: 	
Checked By:	A. Henriques
Signature: 	
Date of Issue:	08 October 2010

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RFI Global Services Ltd
Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG
Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001
Email: info@rfi-global.com Website: www.rfi-global.com

Registered in England and Wales. Company number:2117901

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1. Customer Information

Company Name:	Kenure Developments Ltd
Address:	Springlakes Deadbrook Lane Aldershot Hampshire GU12 4UH United Kingdom

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR22
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2009: Part 22 Subpart H (Public Mobile Services) - Section 22.913
Specification Reference:	47CFR24
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2009: Part 24 Subpart E (Personal Communication Services) - Section 24.232
Site Registration:	FCC: 209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	28 September 2010

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 22.913(a)	Transmitter Output Power and ERP	✓
Part 24.232	Transmitter Output Power and EIRP	✓

Key to Results

✓ = Complied ✗ = Did not comply

2.3. Methods and Procedures

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

2.4. Deviations from the Test Specification

Only the measurements of Transmitter Output power and ERP/EIRP in the GSM850 and PCS1900 bands were performed.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	DataSend900-GPRS
Model Name or Number:	DS-C900G
Serial Number:	0001
IMEI Number:	012000000016424
Hardware Version Number:	7327/0 iss A
Software Version Number:	1.0
FCC ID Number:	MS8C9G

Description:	2.0 dBi gain 850/900/1800/1900 MHz half-wave dipole antenna with SMA connector
Brand Name:	Multi-Tech Systems
Model Name or Number:	C0081-ANG002
Serial Number:	None

3.2. Description of EUT

The equipment under test was a Wireless Data Concentrator operating over the 902 MHz to 928 MHz band with 850/900/1800/1900 GPRS modem. The EUT uses total 51 channels for communications where the 36th channel (919.8976MHz) is a receive-only channel and the rest are bi-directional (transmit/receive) channels.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Technology Tested:	GSM850		
Mode:	GPRS		
Transmit Frequency Range:	824 to 849 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	128	824.2
	Middle	190	836.6
	Top	251	848.8
Technology Tested:	GSM1900		
Mode:	GPRS		
Transmit Frequency Range:	1850 to 1910 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	512	1850.2
	Middle	660	1879.8
	Top	810	1909.8

3.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	AC/DC 5V adapter
Brand Name:	Power Pax
Model Name or Number:	5V 15W Model PA1024-1I
Serial Number:	2K9S0770

Description:	Laptop PC
Brand Name:	Dell
Model Name or Number:	Inspiron 1900
Serial Number:	Not Stated

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 in the GSM850 and PCS1900 bands at full power on bottom, middle and top channel as required.
- Output power was performed with the EUT transmitting at maximum power in GPRS Multislot Class 10 mode with the unit transmitting on two timeslots in the uplink.

4.2. Configuration and Peripherals

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

- The RF port (SMA connector) was connected to a GPRS system simulator via conducted link, operating in transceiver mode.
- Tests were performed with the EUT powered from an AC/DC adapter with 120 VAC and 5 VDC output.

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.

5.2. Test Results – FCC Part 22

5.2.1. Transmitter Conducted Output Power and Effective Radiated Power (ERP)

Test Summary:

Test Engineer:	FR	**Test Date:**	28 September 2010
Test Sample IMEI No:	012000000016424		

FCC Part:	22.913(a)
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.1 referencing FCC CFR Part 2.1046(a)

Environmental Conditions:

Temperature (°C):	26
Relative Humidity (%):	34

Results: GPRS

Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBd*)	Calculated ERP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	824.2	30.5	-0.15	30.35	38.5	8.15	Complied
Middle	836.6	30.5	-0.15	30.35	38.5	8.15	Complied
Top	848.8	30.4	-0.15	30.25	38.5	8.25	Complied

Note(s):

1. The ERP was calculated by adding the customer declared maximum gain of -0.15 dBd (2 dBi).
2. *The antenna gain is specified as 2 dBi which equates to -0.15 dBd. As the limits in Part 22.913 device operating in the GSM850 band specify an ERP value, the antenna gain dBi value was converted to a dBd value.

5.3. Test Results – FCC Part 24

5.3.1. Transmitter Conducted Output Power and Equivalent Isotropic Radiated Power (EIRP)

Test Summary:

Test Engineer:	FR	**Test Date:**	28 September 2010
Test Sample IMEI No:	012000000016424		

FCC Part:	24.232
Test Method Used:	ANSI TIA-603-C-2004 Section 2.2.1 referencing FCC CFR Part 2.1046(a)

Environmental Conditions:

Temperature (°C):	26
Relative Humidity (%):	34

Results: GPRS

Channel	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Calculated EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1850.2	26.1	2.0	28.1	33.0	4.9	Complied
Middle	1879.8	26.4	2.0	28.4	33.0	4.6	Complied
Top	1909.8	26.8	2.0	28.8	33.0	4.2	Complied

Note(s):

1. The EIRP was calculated by adding the customer declared maximum gain of 2 dBi.

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
Conducted Output Power	824 to 849 MHz & 1850 to 1910 MHz	95%	±0.27 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.

Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval
L1001	Test Receiver	Rohde & Schwarz	ESU26	100239	28 Jan 2011	12

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