

TEST REPORT FROM RFI GLOBAL SERVICES LTD



Test of: SHL Telemedicine CCM

FCC ID: U6VCCMGPRS

To: FCC Part 22.913(a) & FCC Part 24.232

Test Report Serial No:
RFI-RPT-RP77787JD07A V4.0

Version 4.0 Supersedes All Previous Versions

This Test Report Is Issued Under The Authority Of John Newell, Group Quality Manager:		
Checked By:	Ian Watch	
Signature:		
Date of Issue:	24 October 2012	

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields.

This report may not be reproduced other than in full, except with the prior written approval of RFI Global Services Ltd. The results in this report apply only to the sample(s) tested.

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

This page has been left intentionally blank.

Table of Contents

1. Customer Information.....	4
2. Summary of Testing.....	5
2.1. General Information	5
2.2. Summary of Test Results	5
2.3. Methods and Procedures	5
2.4. Deviations from the Test Specification	5
3. Equipment Under Test (EUT)	6
3.1. Identification of Equipment Under Test (EUT)	6
3.2. Description of EUT	6
3.3. Modifications Incorporated in the EUT	6
3.4. Additional Information Related to Testing	7
3.5. Support Equipment	7
4. Operation and Monitoring of the EUT during Testing	8
4.1. Operating Modes	8
4.2. Configuration and Peripherals	8
5. Measurements, Examinations and Derived Results	9
5.1. General Comments	9
5.2. Test Results – FCC Part 22	10
5.2.1. Transmitter Effective Radiated Power (ERP)	10
5.3. Test Results – FCC Part 24	11
5.3.1. Transmitter Equivalent Isotropic Radiated Power (EIRP)	11
6. Measurement Uncertainty	12
Appendix 1. Test Equipment Used	13

1. Customer Information





Company Name:	SHL Telemedicine International Ltd.
Address:	90 Yigal Alon Tel Aviv 67891 Israel

2. Summary of Testing

2.1. General Information

FCC Part 22	
Specification Reference:	47CFR22
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 22 Subpart H (Public Mobile Services)
FCC Part 24	
Specification Reference:	47CFR24
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 24 Subpart E (Personal Communication Services)
Site Registration:	209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Date:	06 October 2010

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
FCC Part 22		
22.913(a)(2)	Transmitter ERP	
FCC Part 24		
24.232	Transmitter 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

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:	SHL Telemedicine International Ltd.
Model Name or Number:	CCM
IMEI:	357460032903218
Hardware Version Number:	2.0
Software Version Number:	2.0
FCC ID:	U6VCCMGPRS

3.2. Description of EUT

The equipment under test was a communication system for medical devices that incorporates a GPRS module. Circuit switched operation is not supported.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

FCC Part 22

Technology Tested:	GSM850		
Type of Radio Device:	Transceiver		
Mode:	GPRS		
Modulation Type:	GMSK		
Channel Spacing:	200 kHz		
Maximum Output Power (ERP):	GPRS	31.9 dBm	
Transmit Frequency Range:	824 to 850 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	128	824.2
	Middle	189	836.4
	Top	251	848.8

FCC Part 24

Technology Tested:	PCS1900		
Type of Radio Device:	Transceiver		
Mode:	GPRS		
Modulation Type:	GMSK		
Channel Spacing:	200 kHz		
Maximum Output Power (EIRP):	GPRS	31.7 dBm	
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 accessory was supplied with the EUT during testing:

Description:	AC/DC Adaptor 120 VAC 60 Hz to 13-20 VDC
Brand Name:	EDACPOWER ELEC.
Model Name or Number:	EA1020CR

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.
- GPRS only.
- ERP and EIRP tests were performed with the EUT in GPRS mode transmitting on one timeslot in the uplink.

4.2. Configuration and Peripherals

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

- Connected to a Rohde & Schwarz CMU 200 GSM/GPRS system simulator, operating in transceiver mode.
- Powered by an AC/DC adaptor connected to a 120 VAC 60 Hz supply.

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 Effective Radiated Power (ERP)

Test Summary:

Test Engineer:	Fara Razally	Test Date:	05 October 2010
Test Sample IMEI:	357460032903218		

FCC Part:	22.913(a)(2)
Test Method Used:	ANSI TIA-603-C-2004 Section 2.2.1

Environmental Conditions:

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

Results: GPRS

Channel	Frequency (MHz)	Antenna Polarity	ERP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	824.2	Vertical	29.4	38.5	9.1	Complied
Middle	836.4	Vertical	31.7	38.5	6.8	Complied
Top	848.8	Horizontal	31.9	38.5	6.6	Complied

Note(s):

1. Measurements below 1 GHz were performed in a semi-anechoic chamber (RFI Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

5.3. Test Results – FCC Part 24

5.3.1. Transmitter Equivalent Isotropic Radiated Power (EIRP)

Test Summary:

Test Engineer:	Fara Razally	Test Date:	05 October 2010
Test Sample IMEI:	357460032903218		

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

Environmental Conditions:

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

Environmental Conditions:

Results: GPRS

Channel	Frequency (MHz)	Antenna Polarity	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1850.2	Horizontal	31.7	33.0	1.3	Complied
Middle	1879.8	Horizontal	31.6	33.0	1.4	Complied
Top	1909.8	Horizontal	30.3	33.0	2.7	Complied

Note(s):

- Measurements above 1 GHz were performed in a fully anechoic chamber (RFI Asset Number K0002) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber (RFI Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

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 849MHz	95%	±2.94 dB
Equivalent 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.

Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	06 Jun 2011	12
A1817	Antenna	EMCO	3115	00075694	27 Nov 2010	12
A1818	Antenna	EMCO	3115	00075692	05 Sep 2011	12
A1834	Attenuator	Hewlett Packard	8491B	10444	30 Jun 2011	12
A1970	Pre-Amplifier	RFI	N/A	N/A	30 Sep 2011	12
A288	Antenna	Chase	CBL6111A	1589	05 Sep 2011	12
A553	Antenna	Chase	CBL6111A	1593	26 Mar 2011	12
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	25 Apr 2011	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	05 Sep 2011	12
M1124	Spectrum Analyser	Rohde & Schwarz	ESI26	100046K	07 May 2011	12
M1273	Test Receiver	Rohde & Schwarz	ESIB26	100275	08 Apr 2011	12

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