Report On

FCC and Industry Canada Testing of the
Laerdal Medical AS Little Anne QCPR Sensor
In accordance with FCC 47 CFR Part 15B and ICES-003

COMMERCIAL-IN-CONFIDENCE

FCC ID: QHQ-120-60750
IC: 20263-12060750

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TÜV SÜD Product Service, Octagon House, Concorde Way, Segensworth North,
Fareham, Hampshire, United Kingdom, PO15 5RL
Tel: +44 (0) 1489 558100. Website: www.tuv-sud.co.uk

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Document 75931051 Report 05 Issue 2

August 2015

PREPARED FOR

Laerdal Medical AS
Tanke Svilandsgate
Stavanger
4002
Norway

PREPARED BY

Natalie Bennett
Senior Administrator, Project Support

APPROVED BY

Nic Forsyth
Authorised Signatory

DATED 20 August 2015

This report has been up-issued to Issue 2 to include the Hardware Version.

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15B and ICES-003. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

G Lawler

UKAS TESTING 0141

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SECTION 1

REPORT SUMMARY

FCC and Industry Canada Testing of the
Laerdal Medical AS Little Anne QCPR Sensor
In accordance with FCC 47 CFR Part 15B and ICES-003

1.1 INTRODUCTION

The information contained in this report is intended to show the verification of FCC and Industry Canada Testing of the Laerdal Medical AS Little Anne QCPR Sensor to the requirements of FCC 47 CFR Part 15B and ICES-003.

Objective	To perform FCC and Industry Canada Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Laerdal Medical AS
Model Number(s)	Little Anne QCPR Sensor
Serial Number(s)	Not Serialised (75931051_TSR0009)
Hardware Version	REV A Prototype
Number of Samples Tested	1
Test Specification/Issue/Date	FCC 47 CFR Part 15B (2014) ICES-003 (2012)
Incoming Release Date	Declaration of Build Status 05 August 2015
Disposal Reference Number Date	Held Pending Disposal Not Applicable Not Applicable
Order Number Date	Not supplied QAF 1 July 2015
Start of Test	3 August 2015
Finish of Test	4 August 2015
Name of Engineer(s)	G Lawler
Related Document(s)	ANSI C63.4 (2009)

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1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15B and ICES-003 is shown below.

Section	Specification Clause		Test Description	Result	Comments/Base Standard
	Part 15	ICES-003			
Idle					
2.1	15.109	6.2	Radiated Emissions	Pass	

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1.3 DECLARATION OF BUILD STATUS

MAIN EUT			
MANUFACTURING DESCRIPTION	**Little Anne Little Anne QCPR Sensor (project name: QCPR Plug-In)** *The purpose of the QCPR Plug-In is to provide the user with objective measurements and quality feedback on CPR when training on Little Anne. The feedback will be presented to the user on a smartphone application (Ref. URS-1022*		
MANUFACTURER	Laerdal Medical AS		
TYPE	Little Anne QCPR Sensor		
PART NUMBER	120-60750		
SERIAL NUMBER	N/A		
HARDWARE VERSION	PCBA rev. E		
SOFTWARE VERSION	1.0.6.0 (17.07.15)		
TRANSMITTER FREQUENCY OPERATING RANGE (MHz)	2402 - 2480		
RECEIVER FREQUENCY OPERATING RANGE (MHz)	2402 - 2480		
COUNTRY OF ORIGIN	China		
INTERMEDIATE FREQUENCIES			
EMISSION DESIGNATOR(S): (i.e. G1D, GXW)			
MODULATION TYPES: (i.e. GMSK, QPSK)	GFSK		
HIGHEST INTERNALLY GENERATED FREQUENCY			
OUTPUT POWER (W or dBm)	0 dBm		
FCC ID	QHQ-120-60750		
INDUSTRY CANADA ID	20263-12060750		
TECHNICAL DESCRIPTION (a brief description of the intended use and operation)	Give the user feedback on CPR performance in real time (using Bluetooth Low Energy) on their phone/tablet.		
BATTERY/POWER SUPPLY			
MANUFACTURING DESCRIPTION	1.5 V alkaline battery		
MANUFACTURER	Maxell		
TYPE	LR6 / AA		
PART NUMBER			
VOLTAGE	1.5 V		
COUNTRY OF ORIGIN	China		
MODULES (if applicable)			
MANUFACTURING DESCRIPTION			
MANUFACTURER			
TYPE			
POWER			
FCC ID			
COUNTRY OF ORIGIN			
INDUSTRY CANADA ID			
EMISSION DESIGNATOR			
DHSS/FHSS/COMBINED OR OTHER			
ANCILLARIES (if applicable)			
MANUFACTURING DESCRIPTION			
MANUFACTURER			
TYPE			
PART NUMBER			
SERIAL NUMBER			
COUNTRY OF ORIGIN			

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Signature 

Date **05 August 2015**

Declaration of Build Status Serial Number 75931051/1

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Laerdal Medical AS Little Anne QCPR Sensor. A full technical description can be found in the manufacturer's documentation.

1.5 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure.

The EUT was powered from a 1,5 V DC supply.

FCC Measurement Facility Registration Number
90987 Octagon House, Fareham Test Laboratory

Industry Canada Company Address Code
IC2932B-1 Octagon House, Fareham Test Laboratory

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standard were made during testing.

1.7 MODIFICATION RECORD

Modification 0 - No modifications were made to the test sample during testing.

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SECTION 2

TEST DETAILS

FCC and Industry Canada Testing of the
Laerdal Medical AS Little Anne QCPR Sensor
In accordance with FCC 47 CFR Part 15B and ICES-003

2.1 RADIATED EMISSIONS

2.1.1 Specification Reference

FCC 47 CFR Part 15B, Clause 15.109
ICES-003, Clause 6.2

2.1.2 Equipment Under Test and Modification State

Little Anne QCPR Sensor S/N: Not Serialised (75931051_TSR0009) - Modification State 0

2.1.3 Date of Test

3 August 2015 & 4 August 2015

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.5 Test Procedure

The test was performed in accordance with ANSI C63.4, Clause 8 and ICES-003, Clause 6.2.

Remarks

All final measurements were assessed against the Class B emission limits in FCC 47 CFR Part 15, Clause 15.109 and ICES-003, Clause 6.2.

2.1.6 Environmental Conditions

Ambient Temperature	19.3 - 19.7°C
Relative Humidity	53.0 - 62.0%

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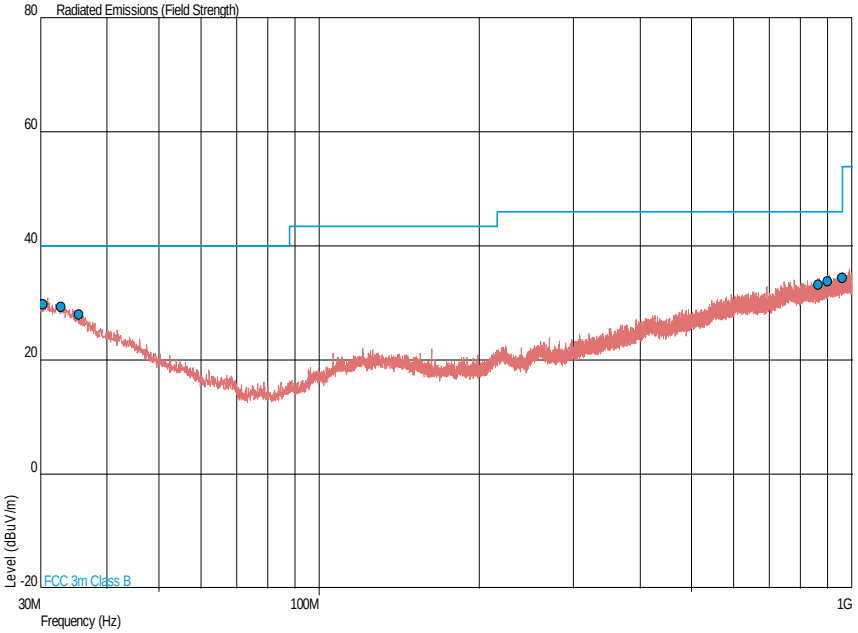
2.1.7 Test Results

Idle, 30 MHz to 1 GHz Results

Frequency (MHz)	Quasi-Peak Level (dBµV/m)	Quasi-Peak Level (µV/m)	Quasi-Peak Margin (dµV/m)	Quasi-Peak Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.388	29.7	30.5	-10.3	-69.5	180	1.00	Horizontal
32.813	29.3	29.2	-10.7	-70.8	45	1.00	Horizontal
35.432	28.0	25.1	-12.0	-74.9	45	1.00	Horizontal
864.879	33.3	46.2	-12.7	-153.8	45	1.00	Vertical
899.848	33.7	48.4	-12.3	-151.6	90	1.00	Horizontal
958.630	34.3	51.9	-11.7	-148.1	225	1.00	Horizontal

Idle, 30 MHz to 1 GHz Plot

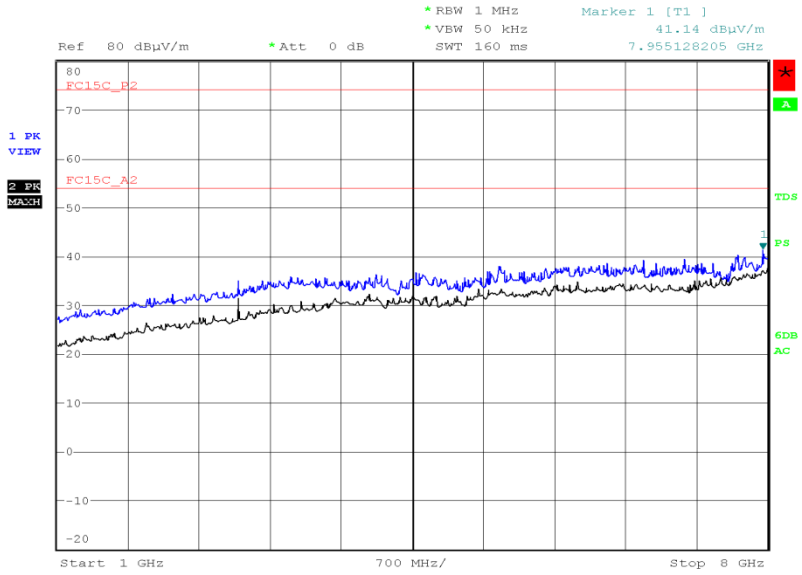


Idle, 1 GHz to 13 GHz Results

Frequency (MHz)	Average Level (dBµV/m)	Peak Level (dBµV/m)	Average Level (µV/m)	Peak Level (µV/m)	Angle (deg)	Height (m)	Polarisation
*							

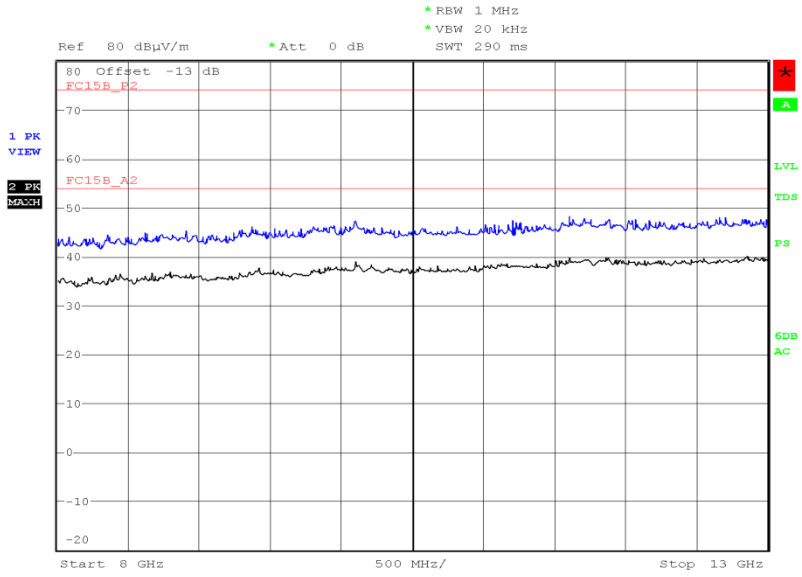
*No emissions were detected within 10 dB of the limit.

Idle, 1 GHz to 8 GHz Plot



Date: 3.AUG.2015 22:14:05

Idle, 8 GHz to 13 GHz Plot



Date: 3.AUG.2015 20:10:27

FCC 47 CFR Part 15, Limit Clause 15.109

Class B

Frequency of Emission (MHz)	Field Strength (µV/m)
30 to 88	100.0
88 to 216	150.0
216 to 960	200.0
Above 960	500.0

ICES-003, Limit Clause 6.2

Class B

Frequency of Emission (MHz)	Quasi-Peak (dBµV/m)
30 to 88	40.0
88 to 216	43.5
216 to 960	46.0
960 to 1000	54.0

Frequency of Emission (MHz)	Field Strength (dBµV/m)	
	Linear Average Detector	Peak Detector
Above 1000	54.0	74.0

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SECTION 3

TEST EQUIPMENT USED

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.1 - Radiated Emissions					
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	29-Apr-2016
Antenna (Bilog)	Schaffner	CBL6143	287	24	3-Feb-2016
Screened Room (5)	Rainford	Rainford	1545	0	20-Dec-2017
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Hygromer	Rotronic	A1	2677	12	11-Jun-2016
Comb Generator	Schaffner	RSG1000	3034	-	TU
Amplifier (8 - 18GHz)	Phase One	PS06-0061	3176	12	11-Aug-2015
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	27-Oct-2015
9m RF Cable (N Type)	Rhophase	NPS-2303-9000-NPS	3791	-	TU
Tilt Antenna Mast	maturo Gmbh	TAM 4.0-P	3916	-	TU
Mast Controller	maturo Gmbh	NCD	3917	-	TU
1 Metre K Type Cable	Rhophase	KPS-1501A-1000-KPS	4105	12	7-Nov-2015
1GHz to 8GHz Low Noise Amplifier	Wright Technologies	APS04-0085	4365	12	1-Oct-2015
Hygropalm Temperature and Humidity Meter	Rotronic	HP21	4410	12	15-Apr-2016
2m K-Type Cable (Rx)	Scott Cables	KPS-1501-2000-KPS	4527	-	TU

TU – Traceability Unscheduled

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	MU
Radiated Emissions	30 MHz to 1 GHz: ± 5.1 dB 1 GHz to 40 GHz: ± 6.3 dB

SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited).