

C004

Yong Huang, Project Specialist Global EMC Inc. Laval 2972 Joseph-A-Bombardier Laval, QC, H7P 6E3 CANADA Ph: (450) 687- 4976 Testing produced for



See Appendix A for full customer & EUT details.









Page 1 of 78 Report issue date: 12/7/2016 GEMC-FCC-Q50244 BS R5 © Global EMC Inc. This test report shall not be reproduced except in full, without written approval of Global EMC Inc. This report is based on GEMC Template "FCC 15 247 Rev2."

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Table of Contents

Table of Contents	2
Report Scope	3
Summary	4
Test Results Summary Justifications, Descriptions, or Deviations Applicable Standards, Specifications and Methods Sample calculation(s) Document Revision Status	5 7 8 9 9
Definitions and Acronyms	10
Testing Facility	11
Calibrations and Accreditations Testing Environmental Conditions and Dates	11
Detailed Test Results Section	13
Power Line Conducted Emissions Radiated Emissions Spurious Conducted Emissions Maximum Peak Envelope Conducted Power Channel Carrier Bandwidth of Frequency Hopping Systems Number of Channels for Frequency Hopping Systems Channel Carrier Separation for Frequency Hopping Systems	14 21 36 44 49 54 54
Frequency Occupancy for Frequency Hopping Systems	66
Appendix A – EUT Summary	70
Appendix B – EUT and Test Setup Photographs	73

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Report Scope

This report addresses the EMC verification testing and test results of the C004, herein referred to as EUT (Equipment Under Test) performed at Global EMC Labs.

The EUT was tested for compliance against the following standards:

RSS 247-Issue 1/ FCC Part 15 Subpart C 15

Test procedures, results, justifications, and engineering considerations, if any, follow later in this report.

The results contained in this report relate only to the item(s) tested.

This report does not imply product endorsement by A2LA or any other accreditation agency, any government, or Global EMC Inc.

Opinions/interpretations expressed in this report, if any, are outside the scope of Global EMC Inc accreditation. Any opinions expressed do not necessarily reflect the opinions of Global EMC Inc, unless otherwise stated.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Summary

The results contained in this report relate only to the item(s) tested.

EUT FCC Certification #, FCC ID:	2ADQFC004
EUT Industry Canada Certification #, IC:	12649A-C004
EUT Passed all tests performed.	Yes (see test results summary)
Tests conducted by	Yong Huang

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EINCINC

Test Results Summary

Standard/Method	Description	Class/Limit	Result
FCC 15.203 RSS-247	Antenna Requirement	Unique	Pass See Justification
FCC 15.205 RSS-247	Restricted Bands for intentional operation	None within chart	Pass See description
FCC 15.207 RSS-247	Power line conducted emissions	QuasiPeak Average	Pass
FCC 15.209 RSS-247	Radiated emissions	QuasiPeak Average	Pass
FCC 15.247(a)(1) RSS-247	Channel Separation	> 25 kHz	Pass
FCC 15.247(a)(1)(i) RSS-247	Number of channels	> 50	Pass
FCC 15.247(a)(1)(i) RSS-247	Time of occupancy	< 400 mSec in 20 sec period	Pass
FCC 15.247(b) RSS-247	Max output power	< 1 Watt	Pass
FCC 15.247(b)(4) RSS-247	Antenna Gain	< 6 dBi	Pass See Justification
FCC 15.247(d) RSS-247	Antenna conducted spurious	> 20 dBc	Pass
FCC 15.247(h)	FHSS Intelligence	No coordination	Pass See Justification
FCC 15.247(i) IC Safety code 6	Maximum Permissible Exposure	> 20 cm separation.	Pass See justification and calculations
Overall	Result		PASS

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

All tests were performed by Yong Huang.

If the product as tested or otherwise complies with the specification, the EUT is deemed to comply with the requirement and is deemed a 'PASS' grade. If not 'FAIL' grade will be issued. Note that 'PASS' / 'FAIL' grade is independent of any measurement uncertainties. A 'PASS' / 'FAIL' grade within measurement uncertainty is marked with a '*'.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU

Justifications, Descriptions, or Deviations

The following justifications for tests not performed or deviations from the above listed specifications apply:

For the Antenna requirement specified in FCC 15.203 (RSS-247), this device requires that professional installation required. A separate attestation/exhibit is provided.

As per client, this product is installed with 200 ft. of AVA5-50 cable. This will be more than 2.2 dB loss for antenna gain calculation at 900-930 MHz, which result in a gain of 5.9dBi(8.1dBi minus 2.2dB), less than 6 dBi.

For the Restricted Bands of operation, the EUT is designed to only operate between 902 to 928 MHz.

For the scope of this test report, radiated testing of the EUT was pre-scanned in three orthogonal axis to maximize emissions. Maximum emissions were found in the vertical EUT polarization. This setup was used for all testing in this report.

For maximum permissible exposure, this device operates at less then 1 Watt at 902-928 MHz and is designed to operate greater than 20 cm from personnel during normal operation. No testing is required.

Client	Otodata Wireless Network Inc.	
Product	C004	GLOBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Applicable Standards, Specifications and Methods

ANSI C63.4:2014	- Methods of Measurement of Radio-Noise Emissions from Low- Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10:2013	- American national standard for testing unlicensed wireless devices
CFR 47 FCC 15	- Code of Federal Regulations – Radio Frequency Devices
CISPR 22:2008	- Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement
ICES-003:2012	- Digital Apparatus - Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard
ISO 17025:2005	- General Requirements for the competence of testing and calibration laboratories
RSS 210:2010	- Issue 8: Spectrum Management and Telecommunications Policy. Radio Standards Specification Low Power Licence-Exempt Radiocommunication Devices
RSS-247 :2015	- Issue 1: Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE- LAN) Devices

Client	Otodata Wireless Network Inc.	
Product	C004	GLOBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Sample calculation(s)

 $\label{eq:margin} \begin{array}{l} Margin = limit - (received signal + antenna factor + cable loss - pre-amp gain) \\ Margin = 50.5 dBuV/m - (50 dBuV + 10 dB + 2.5 dB - 20 dB) \\ Margin = 8.5 dB \end{array}$

Document Revision Status

- Revision 1 Issued on the 23rd, Apr. 2015
- Revision 2 Revised on the 22nd Sep, 2015. As per TCB's request.
- Revision 3 Revised on the 28th Sep, 2015. As per TCB's request.
- Revision 4 Revised on Oct 31, 2016 as per TCB request.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Definitions and Acronyms

The following definitions and acronyms are applicable in this report. See also ANSI C63.14.

AE – Auxiallary Equipment.

BW – Bandwidth. Unless otherwise stated, this is refers to the 6 dB bandwidth.

EMC – Electro-Magnetic Compatibility

EMI – Electro-Magnetic Immunity

EUT – Equipment Under Test

ITE – Information Technology Equipment with a primary function(s) of entry, storage, display, retrieval, transmission, processing, switching, or control, of data.

LISN – Line impedance stabilization network

NCR – No Calibration Required

RF – Radio Frequency

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Testing Facility

Testing for EMC on the EUT was carried out at Global EMC labs in Montréal, Québec, Canada. The testing lab consists of a 3m semi-anechoic chamber calibrated to be able to allow measurements on an EUT with a maximum width or length of up to 2m and height up to 3m. The chamber is equipped with a turn table that is capable of testing devices up to 3300lb in weight. This facility is capable of testing products that are rated for 120 Vac and 240Vac single phase, or 208 Vac 3 phase input. DC capability is also available. The chamber is equipped with an antenna mast that controls polarization and height from the control room adjoining the shielded chamber. Radiated emissions measurements are performed using a Bilog, and Horn antenna where applicable. Conducted emissions, unless otherwise stated, are performed using a LISN.

Calibrations and Accreditations

The measurement site used is registered with Federal Communications Commission (FCC) and Industry Canada (IC). This site is calibrated for Normalized Site Attenuation (NSA) using test procedures outlined in ANSI C63.4 "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The semi-anechoic chamber is lined with ferrite tiles and absorption cones to minimize any undesired reflections. All measuring equipment is calibrated on an annual or bi-annual basis as listed for each respective test. Global EMC's is accredited by A2LA with a scope of accreditation listed under certificate number 2555.01.

Client	Otodata Wireless Network Inc.	
Product	C004	GLOBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVIC INC

Testing Environmental Conditions and Dates

Following were the environmental conditions in the facility during time of testing -

Date	Test	Init.	Temperature (°C)	Humidity (%)	Pressure (kPa)
Nov. 18- Dec. 23, 2014	All	YH	20-25°C	30-45%	100 -103kPa

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Detailed Test Results Section

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Power Line Conducted Emissions

Purpose

The purpose of this test is to ensure that the RF energy unintentionally emitted from the EUT's power line does not exceed the limits listed below as defined in the applicable test standard, as measured from a LISN. This helps protect lower frequency radio services such as AM radio, shortwave radio, amateur radio operators, maritime radio, CB radio, and so on, from unwanted interference.

Limits & Method

The limits are as defined in 47 CFR FCC Part 15 Section 15.207 Method is as defined in ANSI C63.4:2013

Average Limits		QuasiPeak Limits		
150 kHz – 500 kHz	56 to 46 dBuV	150 kHz – 500 kHz	66 to 56 dBuV	
500 kHz – 5 MHz	46 dBuV	500 kHz – 5 MHz	56 dBuV	
5 MHz – 30 MHz	50 dBuV	500 kHz - 30 MHz	60 dBuV	
The limit decreases linearly w	ith the logarithm of the frequence	cy in the range 0.15 MHz to 0.5	0 MHz.	

Note: If the Peak or Quasi Peak detector measurements do not exceed the Average limits, then the EUT is deemed to have passed the requirements.

Both limits are applicable, and each is specified as being measured with a 9 kHz measurement bandwidth .

Typical Setup Diagram

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC



Note: The vertical reference plane is optional as per ANSI C63.4 section 5.2.2

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Measurement Uncertainty

The expanded measurement uncertainty is calculated in accordance with CISPR 16-4-2 and is \pm -3.6 dB with a 'k=2' coverage factor and a 95% confidence level.

Preliminary Graphs

Note the graphs shown below are for graphical illustration only. For final measurements with the appropriate detector where applicable, please refer to the table. The graph shown below is a peak measurement graph, measured with a resolution bandwidth greater then or equal to the final required detector. These graphs are performed as a worst case measurement to enable the detection of frequencies of concern and for considerable time savings.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Phase (Black/Brown)



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Neutral (White/Blue)



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Final Measurements

Emission reading table – Line 1									
Frequency (MHz)	Det. Mode	Raw (dBuV)	Atten Factor (dB)	LISN Factor (dB)	Cable (dB)	Level (dBuV)	AVG Limit (dB)	Margin (dB)	Pass/Fail
1.9908	AVG	33.6	10	0.1	0.2	43.9	46	2.1	Pass
1.9277	AVG	30.1	10	0.1	0.2	40.4	46	5.6	Pass
0.2362	AVG	38.3	10	0	0.8	49.1	52.2	3.1	Pass
0.1865	AVG	42.5	10	0	1.1	53.6	54.2	0.6	Pass
1.8647	AVG	27.6	10	0.1	0.2	37.9	46	8.1	Pass
0.349	AVG	31.4	10	0	0.4	41.8	49	7.2	Pass

Emission reading table – Line 2

Frequency (MHz)	Det. Mode	Raw (dBuV)	Atten Factor (dB)	LISN Factor (dB)	Cable (dB)	Level (dBuV)	AVG Limit (dB)	Margin (dB)	Pass/Fail
1.9775	AVG	32.3	10	0.1	0.2	42.6	46	3.4	Pass
0.2396	AVG	39.2	10	0	0.8	50.0	52.1	2.1	Pass
0.1832	AVG	39.1	10	0	1.2	50.3	54.3	4.0	Pass
1.7984	AVG	28.4	10	0.1	0.2	38.7	46	7.3	Pass
1.742	PEAK	33.5	10	0.1	0.2	43.8	46	2.2	Pass
0.4087	PEAK	33.9	10	0	0.2	44.1	47.7	3.6	Pass

Note: See 'Appendix B - EUT & Test Setup Photographs' for photos showing the test setup for the highest line conducted emission

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU

Test Equipment List

Equipment	Model No.	Manufacturer	Last calibration date	Next calibration due date	Asset#
HP Spectrum Analyzer	8566B	HP	2013-01-22	2015-01-22	4169
Spectrum Analyzer Display	8566B	HP	1-22-13	1-22-15	4168
Quasi Peak Adapter	85650A	HP	2013-01-23	2015-01-23	4170
LISN	FCC-LISN- 50/250-16-2- 01	FCC	2013-05-06	2015-05-06	4005
RF Cable 7m	LMR-400-7M- 50OHM-MN- MN	LexTec	Verified 2013-04-02	2015-04-02	4025
RF Cable 1m	LMR-400-1M- 50OHM-MN- MN	LexTec	Verified 2013-04-02	2015-04-02	4026
Attenuator 10 dB	FP-50-10	Trilithic	Verified 2013-04-02	2015-04-02	4027
Emission software	0.1.87	Global EMC	NCR	NCR	58

This report module is based on GEMC template "FCC - Power Line Conducted Emissions Class A_Rev1"

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVIC INC

Radiated Emissions

Purpose

The purpose of this test is to ensure that the RF energy unintentionally emitted from the EUT does not exceed the limits listed below as defined in the applicable test standard, as measured from a receiving antenna. This helps protect broadcast radio services such as television, FM radio, pagers, cellular telephones, emergency services, and so on, from unwanted interference.

Limit(s) and Method

The method is as defined in ANSI C63.4:2014 for tests below 1GHz, and ANSI C63.10:2013 for tests above 1GHz.

The limits, as defined in 15.247(d) for unintentional radiated emissions apply for those emissions that fall in the restricted bands, as defined in Section 15.205(a). These emissions must comply with the radiated emission limits specified in Section 15.209(a).

All unintentional emissions (including band edge) must also meet the requirements of -20 dBc or greater

0.009 MHz - 0.490 MHz, $2400/F(kHz) \text{ uV/m at } 300 \text{ m}^4$ 0.490 MHz - 1.705 MHz, $24000/F(kHz) \text{ uV/m at } 30 \text{ m}^4$ 1.705 MHz - 30 MHz, $30 \text{ uV/m at } 30 \text{ m}^4$ 30 MHz - 88 MHz, $100 \text{ uV/m} (40.0 \text{ dBuV/m}^1)$ at 3 m 88 MHz - 216 MHz, $150 \text{ uV/m} (43.5 \text{ dBuV/m}^1)$ at 3 m 216 MHz - 960 MHz, $200 \text{ uV/m} (46.0 \text{ dBuV/m}^1)$ at 3 m Above 960 MHz, $500 \text{ uV/m} (54.0 \text{ dBuV/m}^1)$ at 3 m Above 1000 MHz, $500 \text{ uV/m} (54 \text{ dBuV/m}^2)$ at 3m Above 1000 MHz, $5000 \text{ uV/m} (74 \text{ dBuV/m}^3)$ at 3m

¹Limit is with 120 kHz measurement bandwidth and a using a Quasi Peak detector. ²Limit is with 1 MHz measurement bandwidth and using an Average detector ³Limit is with 1 MHz measurement bandwidth and using an Peak detector ⁴Limit is with using a Quasi-peak detector with a bandwidth as defined in CISPR 16-1-1

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Typical Radiated Emissions Setup



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Measurement Uncertainty

The expanded measurement uncertainty is calculated in accordance with CISPR 16-4-2 and is +/-4.4 dB with a 'k=2' coverage factor and a 95% confidence level.

Results

The EUT passed the limits. Low, middle and high band was measured. The worst case for each mode is presented as a graph for the spectrum.

Preliminary Graphs

Note the graphs shown below are for graphical illustration only. For final measurements with the appropriate detector, please refer to the final measurement table where applicable. The graph shown below is a maximized peak measurement graph, measured with a resolution bandwidth greater than the final required detector and over a full 0-360 rotation. This peaking process is done as a worst case measurement. This process enables the detection of frequencies of concern for final measurement, and provides considerable time savings. Final measurements are performed over a full 0-360 degrees rotation and 1 - 4 meter height of measurement antenna.

In accordance with FCC Part 15, Subpart A, Section 15.33, the device was scanned to the 10^{th} harmonic (a minimum of a 1 GHz).

Devices scanned above 1GHz may be scanned at a closer test distance, and in accordance with FCC Part 15, Subpart A, Section 15.31, an extrapolation factor of 20 dB/decade was used above 30 MHz, and 40 dB/decade below 30 MHz.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU



9 kHz to 150 kHz – Loop @ 0 degree

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

9 kHz to 150 kHz - Loop @ 90 degree



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU

150 kHz to 30 MHz - Loop @ 0 degree



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU

150 kHz to 30 MHz - Loop @ 90 degree



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU

Vertical – Peak Emissions Graph



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Horizontal - Peak Emissions Graph



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Final Measurements

The following measurements were made at the harmonics.

Test Freq. (MHz)	Det. mode	Ant. Pol. (H/V)	Raw signal dB(µV)	Ant. factor dB	Cable loss dB	Pre- Amp Gain dB	Pre-sel /atten. dB	Received signal dB(µV/m)	Emission limit dB(µV/m)	Margin dB(μV)	Result
Low Channel											
903	Peak	Н	87.8	24.0	2.8	0	0	114.6	n/a	n/a	
903	Peak	V	105.1	24.0	2.8	0	0	131.9	n/a	n/a	
1806	Peak	Н	57.2	25.2	4.1	-33.1	1.9	55.2	94.6	39.4	PASS
2709	Peak	Н	52.1	28.9	5.3	-33.1	3.3	56.5	74.0	17.5	PASS
3612	Peak	Н	48.1	30.2	6.6	-32.9	6.0	58.0	74.0	16.0	PASS
4515	Peak	Н	44.4	32.1	6.9	-32.9	6.0	56.5	74.0	17.5	PASS
1806	Peak	V	56.3	25.2	4.1	-33.1	1.9	54.3	111.9	57.6	PASS
2709	Peak	V	50.5	28.9	5.3	-33.1	3.3	54.9	74.0	19.1	PASS
3612	Peak	V	50.7	30.2	6.6	-32.9	6.0	60.6	74.0	13.4	PASS
4515	Peak	V	43.6	32.1	6.9	-32.9	6.0	55.7	74.0	18.3	PASS
1806	Avg	Н	55.7	25.2	4.1	-33.1	1.9	53.7	n/a	n/a	
2709	Avg	Н	48.1	28.9	5.3	-33.1	3.3	52.5	54.0	1.5	PASS
3612	Avg	Н	43.1	30.2	6.6	-32.9	6.0	53.0	54.0	1.0	PASS
4515	Avg	Н	30.1	32.1	6.9	-32.9	6.0	42.2	54.0	11.8	PASS
1806	Avg	V	52.8	25.2	4.1	-33.1	1.9	50.8	n/a	n/a	
2709	Avg	V	47.4	28.9	5.3	-33.1	3.3	51.8	54.0	2.2	PASS
3612	Avg	V	43.1	30.2	6.6	-32.9	6.0	53.0	54.0	1.0	PASS
4515	Avg	V	30.2	32.1	6.9	-32.9	6.0	42.3	54.0	11.7	PASS
				1	М	id chanr	el				
904.5	Peak	Н	87.9	24.0	2.8	0	0	114.7	n/a	n/a	
904.5	Peak	V	104.8	24.0	2.8	0	0	131.6	n/a	n/a	
1809	Peak	Н	57.4	25.2	4.1	-33.1	1.9	55.4	94.7	39.3	PASS
2713.5	Peak	Н	52.3	28.9	5.3	-33.1	3.3	56.7	74.0	17.3	PASS
3618	Peak	Н	49.1	30.2	6.6	-32.9	6.0	59.0	74.0	15.0	PASS
4522.5	Peak	Н	44.6	32.1	6.9	-32.9	6.0	56.7	74.0	17.3	PASS
1809	Peak	V	57.8	25.2	4.1	-33.1	1.9	55.8	111.6	55.8	PASS
2713.5	Peak	V	52.5	28.9	5.3	-33.1	3.3	56.9	74.0	17.1	PASS
3618	Peak	V	49.1	30.2	6.6	-32.9	6.0	59.0	74.0	15.0	PASS
4522.5	Peak	V	43.2	32.1	6.9	-32.9	6.0	55.3	74.0	18.7	PASS
1809	Avg	Н	55.5	25.2	4.1	-33.1	1.9	53.5	n/a	n/a	

Report issue date: 12/7/2016

GEMC-FCC-Q50244 BS R5

Client		Otod	ata Wire	less Net	twork l	nc.			GLOBAL		
Product		C004									
Standar	d(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15					EMC	, INC	<i>.</i>		
2713.5	Avg	Н	49.1	28.9	5.3	-33.1	3.3	53.5	54.0	0.5	PASS
3618	Avg	Н	42.4	30.2	6.6	-32.9	6.0	52.3	54.0	1.7	PASS
4522.5	Avg	Н	30.5	32.1	6.9	-32.9	6.0	42.6	54.0	11.4	PASS
1809	Avg	V	56.3	25.2	4.1	-33.1	1.9	54.3	n/a	n/a	
2713.5	Avg	V	49.4	28.9	5.3	-33.1	3.3	53.8	54.0	0.2	PASS
3618	Avg	V	43.8	30.2	6.6	-32.9	6.0	53.7	54.0	0.3	PASS
4522.5	Avg	V	30.1	32.1	6.9	-32.9	6.0	42.2	54.0	11.8	PASS
					Hię	gh Chan	nel				
906	Peak	K H	86.8	24.0	2.8	0	0	112.6	n/a	n/a	
906	Peak	K V	102.8	24.0	2.8	0	0	129.6	n/a	n/a	
1812	Peak	(H	55.8	25.2	4.1	-33.1	1.9	53.8	92.6	38.8	PASS
2718	Peak	< H	53.3	28.9	5.3	-33.1	3.3	57.7	74.0	16.3	PASS
3624	Peak	(H	47.1	30.2	6.6	-32.9	6.0	57.0	74.0	17.0	PASS
4530	Peak	(H	43.6	32.1	6.9	-32.9	6.0	55.7	74.0	18.3	PASS
1812	Peak	< V	57.4	25.2	4.1	-33.1	1.9	55.4	109.6	54.2	PASS
2718	Peak	< V	52.2	28.9	5.3	-33.1	3.3	56.6	74.0	17.4	PASS

Note: In accordance with 15.247(d), only radiated emissions exceeding the 15.209 limit that occur within the bands listed in 15.205, need to be verified with a quasi-peak detector or an average detector.

The frequency shown on the peak graph does not fall within a restricted band as listed in FCC 15.205 and does not need to be verified. In case the peak emissions exceeding the average limits, average detector emission measurements were made to ensure compliance.

Up to the 10^{th} harmonics were measured on all three channels, no emissions were detected above the 5^{rd} harmonic at 3 meter. The noise floor is lower than the limits.

3624

4530

1812

2718

3624

4530

1812

2718

3624

4530

Peak

Peak

Avg

Avg

Avg

Avg

Avg

Avg

Avg

Ava

V

V

Н

Н

Н

Н

V

V

V

V

48.5

42.9

54.5

49.5

41.3

30.1

55.9

48.4

42.9

29.9

30.2

32.1

25.2

28.9

30.2

32.1

25.2

28.9

30.2

32.1

6.6

6.9

4.1

5.3

6.6

6.9

4.1

5.3

6.6

6.9

-32.9

-32.9

-33.1

-33.1

-32.9

-32.9

-33.1

-33.1

-32.9

-32.9

6.0

6.0

1.9

3.3

6.0

6.0

1.9

3.3

6.0

6.0

58.4

55.0

52.5

53.9

51.2

42.2

53.9

52.8

52.8

42.0

74.0

74.0

54.0

54.0

54.0

54.0

54.0

54.0

n/a

n/a

15.6

19.0

0.1

2.8

11.8

1.2

1.2

12.0

n/a

n/a

PASS

PASS

PASS

PASS

PASS

PASS

PASS

PASS

Report issue date: 12/7/2016

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

The fundamental was measured for information purpose, and none of the unintentional radiated emissions that fall outside of the restricted bands exceeded the -20dBc requirement. See 'Spurious Conducted' measurements for further details.

Note: During the tests, EUT was operating in a continuous transmit mode in which it is transmitting at a 100% duty cycle.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EINCINC

Test Equipment List

Equipment	Model No.	Manufacturer	Last calibration date	Next calibration due date	Asset #
Spectrum Analyzer	8566B	HP	1/22/13	1/22/15	4169
Quasi Peak Adapter	85650A	HP	1/23/13	1/23/15	4170
Loop Antenna	EM 6879	Electro-Metrics	10-11-13	10-11-15	4040
BiLog Antenna	3142-C	ETS	4/25/13	4/25/15	4002
Attenuator 3 dB	FP-50-3	Trilithic	N/A	N/A	4028
9kHz-1GHz, 28dB preamp	LNA 6901	Teseq	8-6-13	8-6-15	4036
Horn Antenna	ATH1G18G	AR	4/3/13	4/3/15	4003
1GHz-26.5GHz preamp	HP 8449B	HP	4/25/13	4/25/15	4006
RF Cable 7m	LMR-400-7M- 50OHM-MN- MN	LexTec	Verified 2013-04-02	2015-04-02	4026
RF Cable 1M	LMR-400-1M- 50OHM-MN- MN	LexTec	Verified 2013-04-02	2015-04-02	4039
RF Cable 10m	LMR-400- 10M-50OHM- MN-MN	LexTec	Verified 2013-04-02	2015-04-02	4025
Hewlett Packard Preselector	8445B	HP	NCR	NCR NCR	
Notch Filter	BRC50722	MICRO- TRONICS	Verified 2013-04-02	Verified 2015-04-02	
Emission software	0.1.87	Global EMC	NCR	NCR	58

This report module is based on GEMC template "FCC - 15.209 - Radiated Emissions_Rev5.doc"

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Spurious Conducted Emissions

Purpose

The purpose of this test is to ensure that the maximum power conducted to the radiating element does not exceed the limits specified.

Limits

The limits are defined in 15.247(d).

In any 100 kHz band, the peak spurious harmonics emissions must be at least 20 dB below the fundamental.

Results

The EUT passed. The peak power measured was 29.3 dBm (851 mW). The worst case instrument noise floor was below -60 dBc under this configuration (or -30 dBm) and no harmonics were observed.
Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Graph(s)

The graphs shown below shows the peak power output of the device during the antenna conducted measurement during transmit operation of the EUT. Note there was 20 dB (or 26dB) of external attenuation taken during this measurement. The -20 dBc requirement is shown for the lower band edge at 902MHz in the low channel. The -20 dBc requirement is also shown for the higher band edge at 928MHz in the high channel.



9kHz to 150kHz (26dB attenuation)

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVIL INC

150kHz to 30MHz(26dB attenuation)



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

30MHz to 2.5GHz(26dB attenuation)



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

902MHz to 903.2MHz (Band edge, low channel with 26dB attenuation)



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

905.9MHz to 928MHz (Band edge, High Channel, with 26dB attenuation)



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVIL INC

2.5GHz to 10GHz(26dB attenuation)



Note: See 'Appendix B – EUT & Test Setup Photographs' for photos showing the test setup.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Test Equipment List

Equipment	Model No.	Manufacturer	Last calibration date	Next calibration due date	Asset #
Attenuator 20 dB	FP-50-20	Trilithic	Verified 2013-04-02	2015-04-02	4038
Power Attenuator 6 dB	100-A- MFN-06	Bird	Verified 2013-04-02	2015-04-02	4010
Spectrum Analyzer Display	8566B	HP	2013-01-22	2015-01-22	4168
Spectrum Analyzer	8566B	HP	2013-01-22	2015-01-22	4169
RF Cable 0.5M	LMR-400- 0.5M- 50OHM- MN-MN	LexTec	Verified 2013-04-02	2015-04-02	4029
Screen Capture software	Version 1.3.1	John Miles, KE5FX	NCR	NCR	59

This report module is based on GEMC template "FCC - Power Line Conducted Emissions Class B_Rev1"

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Maximum Peak Envelope Conducted Power

Purpose

The purpose of this test is to ensure that the maximum power conducted to the radiating element does not exceed the limits specified.

Limits

The limits are defined in 15.247(b).

For frequency hopping systems operating in the 902-928 MHz band employing more than 50 hopping channels, the peak limit is 1 watt.

Results

The EUT passed. The peak power measured was 29.3 dBm (851 mW).

Client	Otodata Wireless Network Inc.	
Product	C004	GLOBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Graph(s)

The graphs shown below shows the peak power output of the device during the antenna conducted measurement during transmit operation of the EUT. Note there was 26dB of external attenuation taken during this measurement.





Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Mid Channel



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

High Channel



The calculated value is: 3.3 dBm + 26 dB (attenuator) = 29.3 dBm or 851 mW.

Note: See 'Appendix B – EUT & Test Setup Photographs' for photos showing the test setup.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Test Equipment List

Equipment	Model No.	Manufacturer	Last calibration date	Next calibration due date	Asset #
Attenuator 20 dB	FP-50-20	Trilithic	Verified 2013-04-02	2015-04-02	4038
Power Attenuator 6 dB	100-A- MFN-06	Bird	Verified 2013-04-02	2015-04-02	4010
Spectrum Analyzer Display	8566B	HP	2013-01-22	2015-01-22	4168
Spectrum Analyzer	8566B	HP	2013-01-22	2015-01-22	4169
RF Cable 0.5M	LMR-400- 0.5M- 500HM- MN-MN	LexTec	Verified 2013-04-02	2015-04-02	4029
Screen Capture software	Version 1.3.1	John Miles, KE5FX	NCR	NCR	59

This report module is based on GEMC template "FCC - Power Line Conducted Emissions Class B_Rev1"

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Channel Carrier Bandwidth of Frequency Hopping Systems

Purpose

The purpose of this test is to allow for results that is used to help establish other limits. Although there is not specific limit for this requirement, the derived limits dependant on this information helps allow for other spread spectrum devices to co-exist in the same frequency spectrum. This also helps prevent corruption of data by ensuring adequate channel separation to distinguish the reception of the intended information.

Limits

As per FCC part 15.247, The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

Results

The EUT passed. The 20 dB BW measured was 34.36 kHz.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Graph(s)

The graphs shown below shows the channel spacing during the operation of the device. This is measured by a max hold on the spectrum analyzer and the highest resolution bandwidth that is sufficiently low to exhibit the 20 dB bandwidth of a channel during operation of the EUT. This measurement is a peak measurement. Max hold is performed for a duration of not less than 1 minute.



Low channel

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVIC INC

Mid channel



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

High channel



Note: See 'Appendix B – EUT & Test Setup Photographs' for photos showing the test setup.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Test Equipment List

Equipment	Model No.	Manufacturer	Last calibration date	Next calibration due date	Asset #
Attenuator 20 dB	FP-50-20	Trilithic	Verified 2013-04-02	2015-04-02	4038
Power Attenuator 6 dB	100-A- MFN-06	Bird	Verified 2013-04-02	2015-04-02	4010
Spectrum Analyzer Display	8566B	HP	2013-01-22	2015-01-22	4168
Spectrum Analyzer	8566B	HP	2013-01-22	2015-01-22	4169
RF Cable 0.5M	LMR-400- 0.5M- 50OHM- MN-MN	LexTec	Verified 2013-04-02	2015-04-02	4029
Screen Capture software	Version 1.3.1	John Miles, KE5FX	NCR	NCR	59

This report module is based on GEMC template "FCC - Power Line Conducted Emissions Class B_Rev1"

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Number of Channels for Frequency Hopping Systems

Purpose

The purpose of this test is to ensure that the RF energy of frequency hopping systems is sufficiently spread over a spectrum and that the radio energy is not overly dense. This limit helps allow for other spread spectrum devices to co-exist in the same frequency spectrum. This also helps prevent corruption of data by ensuring adequate channel separation to distinguish the reception of the intended information.

Limits

The limits are as defined in 47 CFR FCC Part 15 Section 15.247(a)(1)

	902 to 928 MHz	2.4 to 2.4835 GHz	5.275 to 5.85 GHz
No conditions	>= 50 channels	>= 15 channels	>= 75 channels
20 dB BW	>= 25 channels	>= 15 channels	>= 75 channels
exceeds 250 kHz			

Results

The EUT passed the requirements of the number of channels. The number of channels the device occupies is 53 channels in the allocation band of 902 to 928 MHz.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Graph(s)

The graphs shown below shows the number of occupied channels during the operation of the device. This is measured by a max hold on the spectrum analyzer and the highest resolution bandwidth that is sufficiently low to exhibit the channel spacing of the signal being measured. This measurement is a peak measurement. Max hold is performed for a duration of not less then 10 minutes, or as sufficient to capture the channels occupied.

The number of channels from 902.75MHz to 903.25MHz: 5



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVIC INC

The number of channels from 903.25MHz to 903.75MHz: 6



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

The number of channels from 903.75MHz to 904.25MHz: 8



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

The number of channels from 904.25MHz to 904.75MHz: 6



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

The number of channels from 904.75MHz to 905.25MHz: 9



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

The number of channels from 905.25MHz to 905.75MHz: 12



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVIL INC

The number of channels from 905.75MHz to 906.25MHz: 7



Note: See 'Appendix B – EUT & Test Setup Photographs' for photos showing the test set-up.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Test Equipment List

Equipment	Model No.	Manufacturer	Last calibration date	Next calibration due date	Asset #
Attenuator 20 dB	FP-50-20	Trilithic	Verified 2013-04-02	2015-04-02	4038
Power Attenuator 6 dB	100-A- MFN-06	Bird	Verified 2013-04-02	2015-04-02	4010
Spectrum Analyzer Display	8566B	HP	2013-01-22	2015-01-22	4168
Spectrum Analyzer	8566B	HP	2013-01-22	2015-01-22	4169
RF Cable 0.5M	LMR-400- 0.5M- 50OHM- MN-MN	LexTec	Verified 2013-04-02	2015-04-02	4029
Screen Capture software	Version 1.3.1	John Miles, KE5FX	NCR	NCR	59

This report module is based on GEMC template "FCC - Power Line Conducted Emissions Class B_Rev1"

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Channel Carrier Separation for Frequency Hopping Systems

Purpose

The purpose of this test is to ensure that the RF energy of frequency hopping systems is sufficiently spread over a spectrum and that the radio energy is not overly dense. This limit helps allow for other spread spectrum devices to co-exist in the same frequency spectrum. This also helps prevent corruption of data by ensuring adequate channel separation to distinguish the reception of the intended information.

Limits

The limits are as defined in 47 CFR FCC Part 15 Section 15.247(a)(1)

	902 to 928 MHz	2.4 to 2.4835 GHz	5.275 to 5.85 GHz
No conditions	25 kHz or 20 dB BW ¹	25 kHz or 20 dB BW^1	25 kHz or 20 dB BW ¹
< 125 mW	25 kHz or 20 dB BW ¹	25 kHz or 2/3 of 20 dB	25 kHz or 20 dB BW ¹
		BW^1	

Note 1: Whichever is greater. The 20 dB BW of the system was measured to be 35 kHz, so a limit of 35 kHz applies.

Results

The EUT passed the requirements of channel carrier spacing exceeding the measured 20 dB BW of the EUT. The 20 dB BW previously measured was 35 kHz, and the device had a channel spacing of 40.8 kHz.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Graph(s)

The graphs shown below shows the channel spacing during the operation of the device. This is measured by a max hold on the spectrum analyzer and the highest resolution bandwidth that is sufficiently low to exhibit the channel spacing of the signal being measured. This measurement is a peak measurement. Max hold is performed for a sufficient duration.



Note: See 'Appendix B – EUT & Test Setup Photographs' for photos showing the test setup.

Report issue date: 12/7/2016

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENILINU

Test Equipment List

Equipment	Model No.	Manufacturer	Last calibration date	Next calibration due date	Asset #
Attenuator 20 dB	FP-50-20	Trilithic	Verified 2013-04-02	2015-04-02	4038
Power Attenuator 6 dB	100-A- MFN-06	Bird	Verified 2013-04-02	2015-04-02	4010
Spectrum Analyzer Display	8566B	HP	2013-01-22	2015-01-22	4168
Spectrum Analyzer	8566B	HP	2013-01-22	2015-01-22	4169
RF Cable 0.5M	LMR-400- 0.5M- 50OHM- MN-MN	LexTec	Verified 2013-04-02	2015-04-02	4029
Screen Capture software	Version 1.3.1	John Miles, KE5FX	NCR	NCR	59

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Frequency Occupancy for Frequency Hopping Systems

Purpose

The purpose of this test is to ensure that the RF energy of frequency hopping systems is hopping at a minimum defined rate. This helps ensure sufficient time off to enable other frequency hopping devices to co-operate within this allocated band.

Limits

For 902 to 928 MHz systems, the limits are as defined in 47 CFR FCC Part 15 Section 15.247(a)(1)(i).

For systems with greater then a 20 dB BW of a hopping channel, and greater then 50 hopping channels, such as this EUT, the average time of occupancy on any frequency shall not be greater then 0.4 seconds within a 20 second period.

Results

The EUT passed the requirements. The EUT cycles through its list of hopping frequencies every 21.3 seconds. The on time duration of each hop is 396 msec.

Thus the EUT achieves an worst case occupancy of 396 msec within a 20 second period. This is under the 400 msec limit.

Graph(s)

The first graph shown below shows the repeat time of the pseudorandom generated hopping list. This graph was taken over a period of 120 seconds. The second graph shows the on time over a 500 msec period. Note that in the first graph, the peak represents the 'on' of the frequency being measured. The lower signals are artifacts of nearby channels due to the wide resolution BW used.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC





Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

On time during each channel



Note: See 'Appendix B – EUT & Test Setup Photographs' for photos showing the test setup.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Test Equipment List

Equipment	Model No.	Manufacturer	Last calibration date	Next calibration due date	Asset #
Attenuator 20 dB	FP-50-20	Trilithic	Verified 2013-04-02	2015-04-02	4038
Power Attenuator 6 dB	100-A- MFN-06	Bird	Verified 2013-04-02	2015-04-02	4010
Spectrum Analyzer Display	8566B	HP	2013-01-22	2015-01-22	4168
Spectrum Analyzer	8566B	HP	2013-01-22	2015-01-22	4169
RF Cable 0.5M	LMR-400- 0.5M- 50OHM- MN-MN	LexTec	Verified 2013-04-02	2015-04-02	4029
Screen Capture software	Version 1.3.1	John Miles, KE5FX	NCR	NCR	59

This report module is based on GEMC template "FCC - Power Line Conducted Emissions Class B_Rev1"

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Appendix A – EUT Summary

For further details for filing purposes, refer to filing package.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	

General EUT Description

Client Details			
Organization / Address	Otodata Wireless Network Inc. 9280 L'Acadie Boulevard, Montreal, QC. Canada H4N 3C5		
Contact	Jason M Gallovich - Executive Vice-President		
Phone	P: 514-673-0244		
Email	jmgallovich@otodata.ca		
EUT (Equipment Under Test) Details			
EUT Name (for report title)	C004		
EUT Model / SN (if known)	C004		
EUT revision	1R2		
Software version	0.1.80		
Equipment category	Transceiver		
Input voltage range(s) (V)	5v-16v		
Frequency range(s) (Hz)	902-928 MHz ISM		
Rated input current (A)	1 A Max		
Nominal power consumption (W)	3 W		
Number of power supplies in EUT	1 Battery		
Transmits RF energy? (describe)	Click here 30 dBm		
Basic EUT functionality	Wireless Telematic Base Station		
description			
Modes of operation	FHSS		
Frequency of all clocks present in EUT	32.768KHz, 19.68MHz		

Note the EUT is considered to have been received the date of the commencement of the first test, unless otherwise stated. For a close-up picture of the EUT, see 'Appendix B - EUT & Test Setup Photographs'.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EN/UINU

Report issue date: 12/7/2016
Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Appendix B – EUT and Test Setup Photographs

Note: These photos are for information purposes only. Also refer to PDF files that are separate from this test report.

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

EUT's Photo:



Report issue date: 12/7/2016

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVICINC

Conducted Emission Test Setup Photo:



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	EIVIC INC

Conducted Test Setup Photo:



Report issue date: 12/7/2016

Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Radiated Emission Test Setup Photo#1:



Client	Otodata Wireless Network Inc.	
Product	C004	GLUBAL
Standard(s)	RSS-247Issue 1/ FCC Part 15 Subpart C 15	ENICINC

Radiated Emission Test Setup Photo#2:

