

RF Exposure

Applicant: Pointer Telocation Inc.

Address of Applicant: Pointer Telocation 7751 NW 48th street suite 395 Doral Florida
33166 Doral USA

Manufacturer/Factory: Pointer Telocation Inc.

**Address of
Manufacturer/Factory:** Pointer Telocation 7751 NW 48th street suite 395 Doral Florida
33166 Doral USA

Equipment Under Test (EUT)

Product Name: Cello Family

Model No.: Cello-CANiQ K-line - CT7800136-000,
Cello-IQ - CT7800123-000, Cello-CANiQ- CT7800137-000,
Cello CANiQ (DTCO) - CT7800138-000

Trade Mark: Pointer

Applicable standards: EN 62311:2008

Date of sample receipt: December 03, 2018

Date of Test: December 04-12, 2018

Date of report issue: December 13, 2018

Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives. The protection requirements with respect to electromagnetic compatibility contained in Directive 2014/53/EU are considered.



CE

Robinson Lo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	December 13, 2018	Original

Prepared By: Tiger. Chen **Date:** December 13, 2018
Project Engineer

Check By: Robinson **Date:** December 13, 2018
Reviewer

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4 General Information

4.1 General Description of EUT

Product Name:	Cello Family
Model No.:	Cello-CANiQ K-line - CT7800136-000, Cello-IQ - CT7800123-000, Cello-CANiQ- CT7800137-000, Cello CANiQ (DTCO) - CT7800138-000
Test Model No:	Cello-CANiQ K-line - CT7800136-000
Differences between the variants Parents (most complicated) and Suns :	
<div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Parent -Cello-CANiQ K-Line P\n: CT7800136-000 Modem:2G </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 30%; text-align: center;"> Sun - Cello CANiQ (DTCO) P\n: CT7800138-000 Delta: DTCO input instead of output . </div> <div style="border: 1px solid black; padding: 5px; width: 30%; text-align: center;"> Sun - Cello-CANiQ P\n: CT7800137-000 Delta: No K-line connection. Additional output instead. </div> <div style="border: 1px solid black; padding: 5px; width: 30%; text-align: center;"> Sun - Cello-IQ P\n: CT7800123-000 Delta: No CAN bus and No K-line connection. Additional 2 Input and 1 output instead. </div> </div> </div>	
Hardware Version:	PB1031 REV-E
Software Version:	38
Support Networks:	GSM, GPRS, EGPRS
TX Frequency:	E-GSM900: 880---915MHz DCS1800: 1710---1785MHz
Modulation Type:	GSM/GPRS: GMSK EGPRS: GMSK/8PSK
Antenna Type:	Integral Antenna
Antenna Gain:	2.00dBi
EGPRS/GPRS Class:	Class 12
Power Supply:	DC 9-32V or DC 3.7V, 3.7Wh, 1000mAh by Lithium Ion Polymer Battery

4.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383, January 08, 2018.

• **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. Has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016.

4.3 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

4.4 Description of Support Units

The EUT has been tested as an independent unit.

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 Technical Requirements Specification in EN 62311

Test Requirement:	EN 62311																																																												
Test Method:	EN 62311																																																												
General Description of Applied Standards	EN 62311 Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz–300 GHz) is to demonstrate the compliance of apparatus with the basic restrictions or reference levels on exposure of the general public related to electric, magnetic, electromagnetic fields as well as induced and contact current.																																																												
Limit:	<p>According to EN 62311, the criteria listed in the below table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified table 2 of Council Recommendation 1999/519/EC.</p> <p style="text-align: center;">Reference levels for electric, magnetic and electromagnetic fields (0 Hz to 300 GHz, unperturbed rms values)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Frequency range</th> <th>E-field strength (V/m)</th> <th>H-field strength (A/m)</th> <th>B-field (μT)</th> <th>Equivalent plane wave power density S_{eq} (W/m²)</th> </tr> </thead> <tbody> <tr> <td>0-1 Hz</td> <td>—</td> <td>$3,2 \times 10^4$</td> <td>4×10^4</td> <td>—</td> </tr> <tr> <td>1-8 Hz</td> <td>10 000</td> <td>$3,2 \times 10^4 f^2$</td> <td>$4 \times 10^4 f^2$</td> <td>—</td> </tr> <tr> <td>8-25 Hz</td> <td>10 000</td> <td>$4 000/f$</td> <td>$5 000/f$</td> <td>—</td> </tr> <tr> <td>0,025-0,8 kHz</td> <td>$250/f$</td> <td>$4/f$</td> <td>$5/f$</td> <td>—</td> </tr> <tr> <td>0,8-3 kHz</td> <td>$250/f$</td> <td>5</td> <td>6,25</td> <td>—</td> </tr> <tr> <td>3-150 kHz</td> <td>87</td> <td>5</td> <td>6,25</td> <td>—</td> </tr> <tr> <td>0,15-1 MHz</td> <td>87</td> <td>$0,73/f$</td> <td>$0,92/f$</td> <td>—</td> </tr> <tr> <td>1-10 MHz</td> <td>$87 f^{0,2}$</td> <td>$0,73/f$</td> <td>$0,92/f$</td> <td>—</td> </tr> <tr> <td>10-400 MHz</td> <td>28</td> <td>0,073</td> <td>0,092</td> <td>2</td> </tr> <tr> <td>400-2 000 MHz</td> <td>$1,375 f^{0,2}$</td> <td>$0,0037 f^{0,2}$</td> <td>$0,0046 f^{0,2}$</td> <td>$f/200$</td> </tr> <tr> <td>2-300 GHz</td> <td>61</td> <td>0,16</td> <td>0,20</td> <td>10</td> </tr> </tbody> </table> <p>Notes:</p> <p>1. f as indicated in the frequency range column.</p>	Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density S_{eq} (W/m ²)	0-1 Hz	—	$3,2 \times 10^4$	4×10^4	—	1-8 Hz	10 000	$3,2 \times 10^4 f^2$	$4 \times 10^4 f^2$	—	8-25 Hz	10 000	$4 000/f$	$5 000/f$	—	0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	—	0,8-3 kHz	$250/f$	5	6,25	—	3-150 kHz	87	5	6,25	—	0,15-1 MHz	87	$0,73/f$	$0,92/f$	—	1-10 MHz	$87 f^{0,2}$	$0,73/f$	$0,92/f$	—	10-400 MHz	28	0,073	0,092	2	400-2 000 MHz	$1,375 f^{0,2}$	$0,0037 f^{0,2}$	$0,0046 f^{0,2}$	$f/200$	2-300 GHz	61	0,16	0,20	10
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Test method:	<p>According to the Far field calculation formula:</p> <p style="text-align: center;">Far Field Calculation Formula</p> $E = \frac{\sqrt{30PG(\theta, \phi)}}{r}$ <p>G = antenna gain relative to an isotropic antenna θ, ϕ = elevation and azimuth angles to point of investigation r = distance from observation point to the antenna</p> <p>The antenna of the product, under normal use condition is at least 20cm away from the body of the user. Warning statement of the user for keeping 20cm separation distance and the prohibition of operating to a person has been printed on the user manual. So, this product under normal use is located on electromagnetic far field between the human body.</p>																																																												
Result:	Pass																																																												

Measurement Data:

Maximum output power for GSM transmitting					
Frequency (MHz)	Output Power (dBm)	Output Power (mW)	E Field Strength (V/m)	Limit (V/m)	Result
880.0-915.0	32.81	1909.853	47.646	61.00	Pass

-----End-----