



FCC TEST REPORT FCC 47 CFR Part 15D Unlicensed Personal Communication Service Devices Industry Canada RSS-213 2GHz License-exempt Personal Communications Service Devices (LE-PCS)	
Report Reference No.	G0M-1412-4399-TFC15DFP-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	  A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970 IC OATS Filing assigned code: 3470A
Applicant's name	LogicMark, LLC
Address	10106 Bluegrass Parkway 40299 Louisville USA
Test specification:	
Standard	47 CFR Part 15D, 47 CFR Part 15C, 47 CFR Part 15B RSS-213, Issue 2, 2005-12, RSS-Gen, Issue 4, 2014-11 ANSI C63.17:2006, ANSI C63.4:2003
Test scope	Class II Permissive Change
Equipment under test (EUT):	
Product description	CaretakerSentry
Model No.	40914
Additional Model(s)	None
Brand Name(s)	LogicMark
Hardware version	None
Firmware / Software version	2.3
	FCC-ID: TYD-CS40914 IC: 8471A-CS40914
Test result	Passed

Possible test case verdicts:

- neither assessed nor tested N/N
- required by standard but not appl. to test object..... N/A
- required by standard but not tested..... N/T
- not required by standard for the test object N/R
- test object does meet the requirement..... P (Pass)
- test object does not meet the requirement..... F (Fail)

Testing:

Test Lab Temperature 20 – 23 °C

Test Lab Humidity 32 – 38 %

Date of receipt of test item 2015-01-09

Date (s) of performance of tests 2015-01-09

Compiled by Marcus Klein

Tested by (+ signature) Marcus Klein
(Responsible for Test)

M. Klein

Approved by (+ signature) Christian Weber

C. Weber

Date of issue 2015-01-12

Total number of pages 21

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Additional comments:

Version History

Version	Issue Date	Remarks	Revised by
01	2015-01-12	Initial Release	

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1 Equipment (Test item) Description

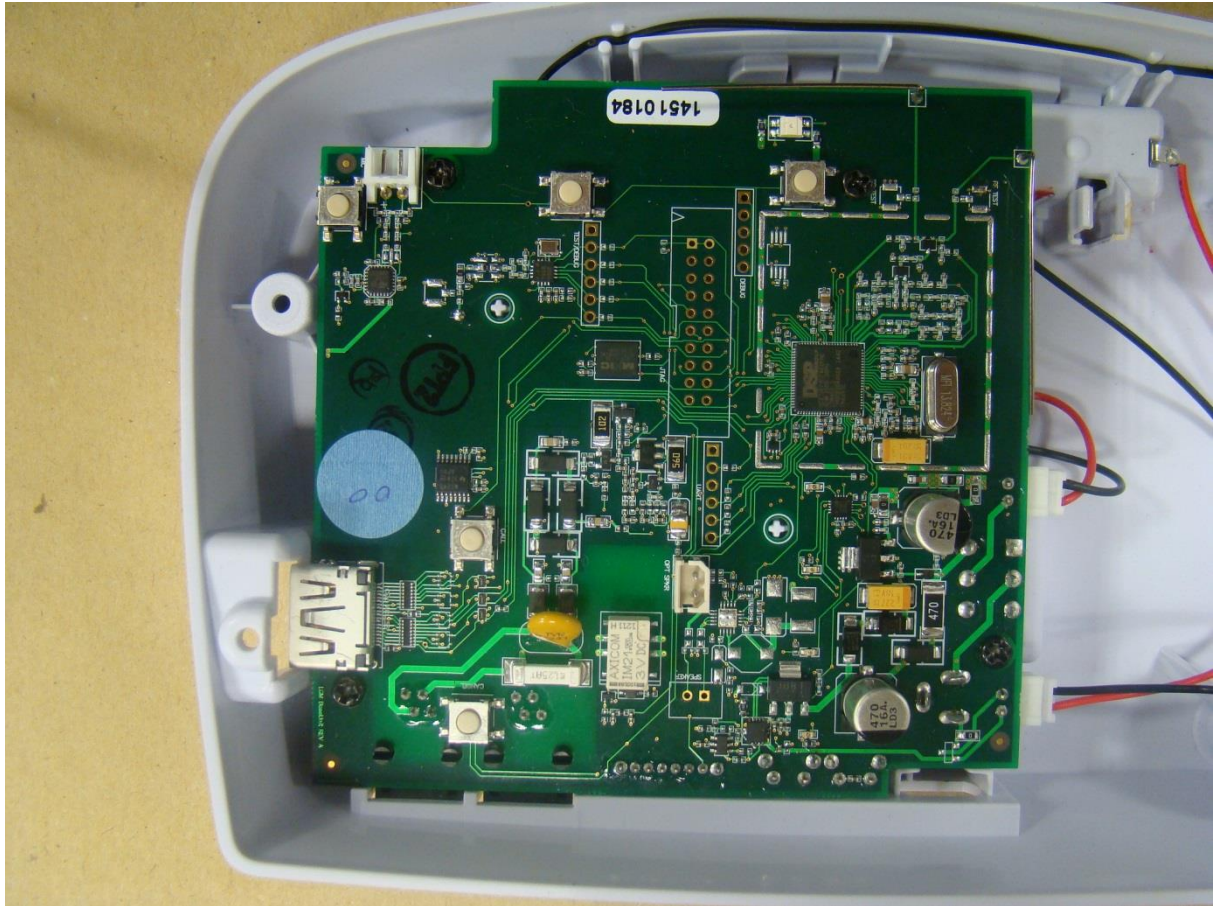
Description	CaretakerSentry	
Model	40914	
Additional Model(s)	None	
Brand Name(s)	LogicMark	
Serial number	None	
Hardware version	None	
Software / Firmware version	2.3	
FCC-ID	TYD-CS40914	
IC	8471A-CS40914	
Equipment type	End Product	
Radio type	DECT Fixed Part	
Number of Radios	1 transceivers is built into the device	
Radio technology	DECT 6.0	
Operating frequency range	1921.536 - 1928.448MHz	
Assigned frequency band	1920 - 1930MHz	
Number of RF channels	5	
Manufacturer	LogicMark, LLC 10106 Bluegrass Parkway 40299 Louisville USA	
Power supply	4.8 VDC Battery / 110 VAC	
AC/DC-Adaptor	Model	ZDC075080US
	Vendor	E-Tek
	Input	100-240 VAC 50/60 Hz
	Output	7.5 VDC / 0.8 A

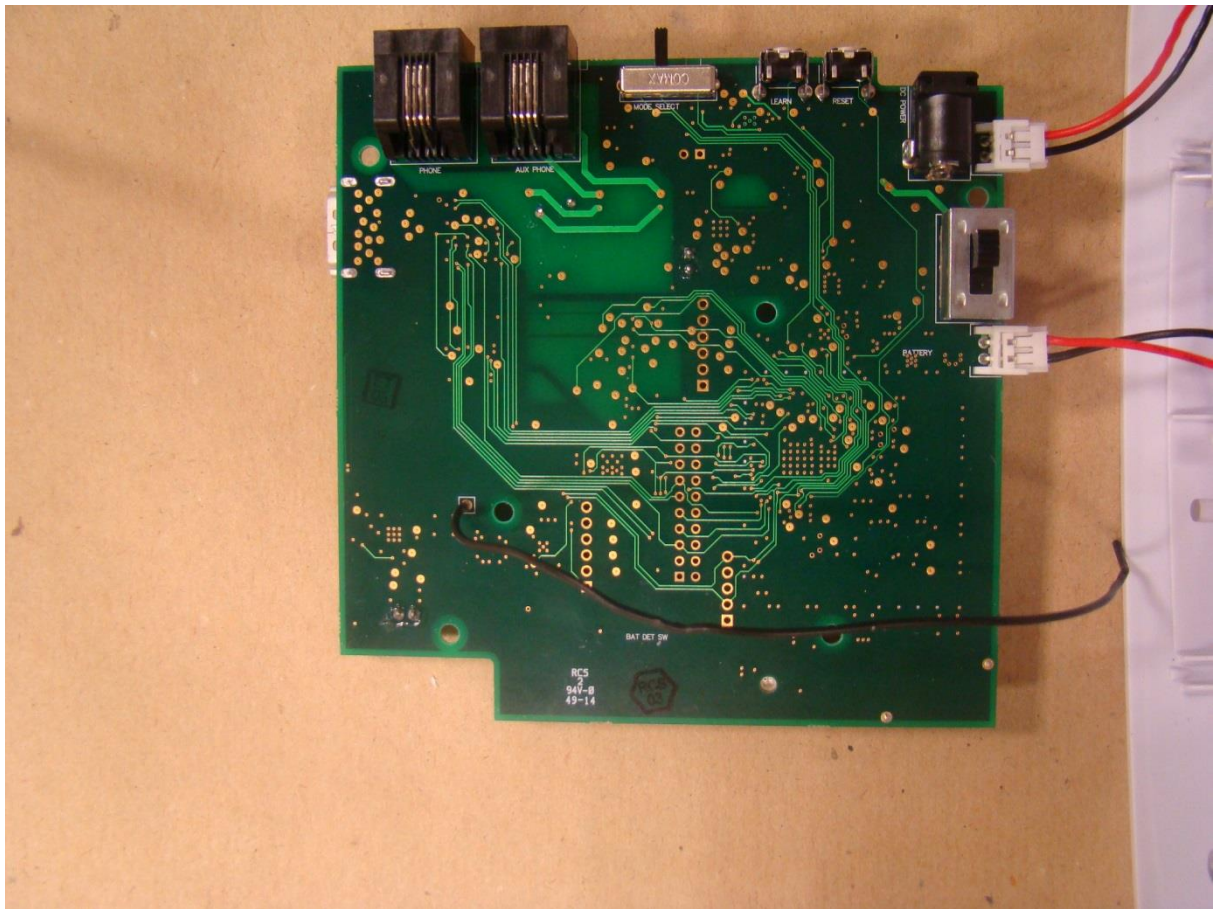
1.1 Photos - Equipment external





1.2 Photos - Equipment internal





1.3 Photos – Test setup





1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
AE	Pendant	LogicMark	DECT 6.0 2-Way	
<p>*Note: Use the following abbreviations:</p> <p>AE : Auxiliary/Associated Equipment, or</p> <p>SIM : Simulator (Not Subjected to Test)</p> <p>CABL : Connecting cables</p>				

1.5 Test Modes

Mode #	Description	
AC-Powerline	General conditions:	Charging via AC/DC Adapter.
	Radio conditions:	Mode = idle Modulation = none

1.6 Test Equipment Used During Testing

Measurement Software			
Description	Manufacturer	Name	Version
EMC Test Software	Dare Instruments	Radimation	2014.1.15

AC powerline conducted emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	R&S	ESH2-Z5	EF00036	2014-11	2016-11
EMI Test Receiver	R&S	ESCS 30	EF00295	2014-10	2015-10

1.7 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBμV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBμV/m). The FCC limits are given in units of μV/m. The following formula is used to convert the units of μV/m to dBμV/m:

$$\text{Limit (dB}\mu\text{V/m)} = 20 * \log (\mu\text{V/m})$$

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading	+	AF	=	Net Reading	:	Net reading - FCC limit	=	Margin
21.5 dBμV	+	26 dB	=	47.5 dBμV/m	:	47.5 dBμV/m - 57.0 dBμV/m	=	-9.5 dB

2 Result Summary

FCC 47 CFR Part 15D, 15C, IC RSS-213, IC RSS-Gen				
Product Specific Standard Section	Requirement – Test	Reference Method	Result	Remarks
FCC 15.307	Coordination with fixed microwave service	declaration	N/A	
FCC 15.309(b)	Cross reference to subpart B	dedicated report	PASS	Note 1
FCC 15.315 FCC 15.207 IC RSS-213 6.3 IC RSS-213 4.2 IC RSS-Gen 8.8	AC power line conducted emissions	ANSI C63.4	PASS	Note 1
FCC 15.317 FCC 15.203 IC RSS-213 4.1(e)	Antenna requirements	visual inspection	N/A	
FCC 15.319(b) IC RSS-213 6.1	Digital modulation	ANSI C63.17 6.1.4	N/A	
IC RSS-213 6.4 RSS-Gen 4.6.1	Occupied bandwidth	RSS-Gen 4.6.1	N/A	
FCC 15.323(a)	Emission Bandwidth	ANSI C63.17 6.1.3	N/A	
FCC 15.319(c) FCC 15.319(e) IC RSS-213 6.5 IC RSS-213 4.3.1	Peak transmit power	ANSI C63.17 6.1.2	N/A	
FCC 15.319(d) IC RSS-213 6.6 IC RSS-213 4.3.2	Power spectral density	ANSI C63.17 6.1.5	N/A	
FCC 15.323(f) IC RSS-213 6.2	Frequency stability	ANSI C63.17 6.2	N/A	
FCC 15.323(d) IC RSS-213 6.7.2	Transmitter in-band unwanted emissions	ANSI C63.17 6.1.6	N/A	
FCC 15.323(d) IC RSS-213 6.7.1	Transmitter out-of-band emissions	ANSI C63.17 6.1.6 ANSI C63.4	N/A	
IC RSS-213 6.8 IC RSS-Gen 4.10, 6	Receiver spurious emissions	ANSI C63.4	N/A	
FCC 15.319(f) IC RSS-213 4.3.4(a)	Automatic discontinuation of transmission	functional test	N/A	
FCC 15.319(i) RSS-102	Radiofrequency radiation exposure	dedicated report	N/A	
FCC 15.323(c)(2),(5),(9) IC RSS-213 4.3.4(b)(2),(5),(9)	Monitoring threshold + Monitoring threshold relaxation	ANSI C63.17 7.3.1	N/A	
FCC 15.323(c)(5) IC RSS-213 4.3.4(b)(5)	LIC confirmation	ANSI C63.17 7.3.4 / 7.3.4	N/A	
FCC 15.323(c)(5) IC RSS-213 4.3.4(b)(5)	LIC selection	ANSI C63.17 7.3.2 / 7.3.3	N/A	
FCC 15.323(c)(8) IC RSS-213 4.3.4(b)(8)	Monitoring antenna	ANSI C63.17 4	N/A	

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Eurofins Product Service GmbH
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FCC 15.323(c)(1) IC RSS-213 4.3.4(b)(1)	Monitoring time	ANSI C63.17 7.3.4	N/A	
FCC 15.323(c)(7) IC RSS-213 4.3.4(b)(7)	Monitoring bandwidth	ANSI C63.17 7.4	N/A	
FCC 15.323(c)(7) IC RSS-213 4.3.4(b)(7)	Monitoring reaction time	ANSI C63.17 7.5	N/A	
FCC 15.323(c)(6) IC RSS-213 4.3.4(b)(6)	Access criteria test interval	ANSI C63.17 8.1.1	N/A	
FCC 15.323(c)(6) IC RSS-213 4.3.4(b)(6)	Access criteria functional test	ANSI C63.17 8.1.2 / 8.1.3	N/A	
FCC 15.323(c)(4) IC RSS-213 4.3.4(b)(4)	Acknowledgements	ANSI C63.17 8.2.1	N/A	
FCC 15.323(c)(3) IC RSS-213 4.3.4(b)(3)	Maximum transmit period	ANSI C63.17 8.2.2	N/A	
FCC 15.323(c)(5) IC RSS-213 4.3.4(b)(5)	Maximum spectrum occupancy	declaration	N/A	
FCC 15.323(c)(10) IC RSS-213 4.3.4(b)(10)	Duplex connections	ANSI C63.17 8.3	N/A	
FCC 15.323(c)(11) IC RSS-213 4.3.4(b)(11)	Alternative monitoring interval	ANSI C63.17 8.4	N/A	
FCC 15.323(c)(12) IC RSS-213 4.3.4(b)(12)	Fair access	declaration	N/A	
FCC 15.323(e)(1),(4),(5) IC RSS-213 4.3.4(c)(1),(4),(5)	Frame period and Jitter	ANSI C63.17 6.2.3	N/A	
FCC 15.323(e)(2),(3) IC RSS-213 4.3.4(c)(2),(3)	Frame and TDMA repetition stability	ANSI C63.17 6.2.2	N/A	
Remarks: Test case selection is based on modifications described in class II permissive change letter in order to verify all affected test cases.				

3 Test Conditions and Results

3.1 Test Conditions and Results – Cross reference to subpart B

Cross reference to subpart B acc. to FCC 47 CFR 15D		Verdict: N/A
EUT requirement rule parts and clause	Reference	
	FCC 15.309(b)	
Test according to measurement reference	Reference Method	
	Dedicated Test Report	
Requirements		
The requirements of subpart D apply only to the radio transmitter contained in the PCS device. Other aspects of the operation of a PCS device may be subject to requirements contained elsewhere in this chapter. In particular, a PCS device that includes digital circuitry not directly associated with the radio transmitter also is subject to the requirements for unintentional radiators in subpart B.		
Result		
The test results related to subpart B are given in a dedicated test report G0M-1412-4399-EF0115B-V01		

3.2 Test Conditions and Results – AC power line conducted emissions

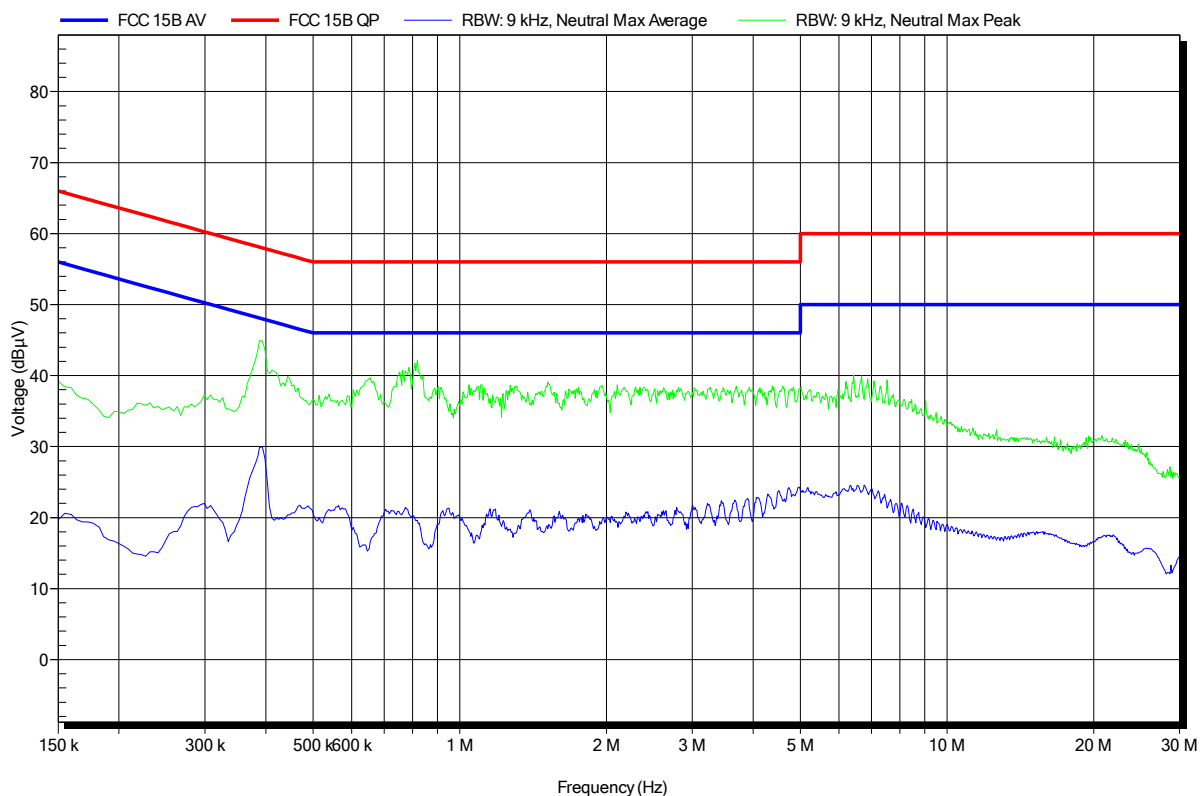
Conducted emissions acc. to FCC 47 CFR 15D / IC RSS-213				Verdict: PASS	
EUT requirement rule parts and clause		Reference			
		FCC 15.315 / FCC 15.207 / IC RSS-213 6.3, 4.2			
Test according referenced standards		Reference Method			
		ANSI C63.4			
Fully configured sample scanned over the following frequency range		Frequency range			
		0.15MHz to 30MHz			
Points of Application		Application Interface			
AC Mains		LISN			
EUT test mode		AC-Powerline			
Limits and results					
Frequency [MHz]	Quasi-Peak [dBμV]	Result	Average [dBμV]	Result	
0.15 to 5	66 to 56*	PASS	56 to 46*	PASS	
0.5 to 5	56	PASS	46	PASS	
5 to 30	60	PASS	50	PASS	
Comments:					
* Limit decreases linearly with the logarithm of the frequency.					

EMI voltage test in the ac-mains according to FCC 15.207

Project number: G0M-1412-4399

Manufacturer: LogicMark, LLC
 EUT Name: CaretakerSentry
 Model: 40911
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Klein
 Test Conditions: Tnom: 23°C, Unom: 120 VAC
 LISN: ESH2-Z5 N
 Mode: Charging
 Test Date: 2015-01-09
 Note:

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EMI voltage test in the ac-mains according to FCC 15.207

Project number: G0M-1412-4399

Manufacturer: LogicMark, LLC
 EUT Name: CaretakerSentry
 Model: 40911
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Klein
 Test Conditions: Tnom: 23°C, Unom: 120 VAC
 LISN: ESH2-Z5 L
 Mode: Charging
 Test Date: 2015-01-09
 Note:

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