TEST REPORT

FCC Part 15 Subpart C Section 15.231
IC RSS-210 Issue 8
IC RSS-Gen Issue 3

MANUFACTURER'S NAME	Cinch Systems Inc 12075 43rd Street NE Suite 300 St Michael MN 55376
PRODUCT NAME	Standard Door Window Sensor, Standard DWS-Magnasphere-319.5 MHz
MODEL NUMBER(S) TESTED	RF-SWDS, RF-SWDS-MAG
SERIAL NUMBER(S) TESTED	123456
PRODUCT DESCRIPTION	Standard Door Window Sensor - Reed or custom activation switch
TEST REPORT NUMBER	NC1310947.1
TEST DATE(S)	11-15 November 2013

TÜV SÜD America Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the applicable EMC requirements of FCC Part 15 Subpart C Section 15.231 “Periodic operation in the band 40.66–40.70 MHz and above 70 MHz.” and Industry Canada RSS-210 Issue 8 “Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment” and Industry Canada RSS-Gen Issue 3 “General Requirements and Information for the Certification of Radio Apparatus”.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

Date: 27 November 2013

Location: Taylors Falls MN
USA

Joel T Schneider
Senior EMC Engineer

Greg Jakubowski
Senior EMC Technician

Not Transferable

EMC TEST REPORT

Test Report No.	**NC1310947.1** Date of issue: 27 November 2013
Product Name	Standard Door Window Sensor, Standard DWS-Magnasphere-319.5 MHz
Model(s) Tested	RF-SWDS, RF-SWDS-MAG
Serial No(s) Tested	123456
Product Description	Standard Door Window Sensor - Reed or custom activation switch
Manufacturer	Cinch Systems Inc 12075 43rd Street NE Suite 300 St Michael MN 55376
Test Result	■ **Positive** ☐ **Negative**

TÜV SÜD America Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV SÜD America Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD America Inc issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP, NIST, or any agency of the US government.

TÜV SÜD America Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NARTE, and VCCI.

REVISION RECORD

REVISION	TOTAL NUMBER OF PAGES	DATE	DESCRIPTION
	24	27 November 2013	Initial Release

DIRECTORY

Contents

EMC TEST REGULATIONS:
The tests were performed according to the following regulations:
FCC Part 15 Subpart C §15.231
IC RSS-210 Issue 8
IC RSS-Gen Issue 3

ENVIRONMENTAL CONDITIONS IN THE LAB

	Actual
Temperature:	: 17-18°C
Atmospheric pressure	: 97-100kPa
Relative Humidity	: 28-33%

POWER SUPPLY UTILIZED
Power supply system : 3 VDC

TEST EQUIPMENT
All measurement instrumentation is traceable to the National Institute of Standards and Technology and is calibrated according to internal procedure.

MEASUREMENT UNCERTAINTY
The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system has a measurement uncertainty of ±1.8 dB. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. The test system has a measurement uncertainty of ±4.8 dB. All measurement instrumentation is traceable to the National Institute of Standards and Technology and is calibrated according to internal procedure.

SIGN EXPLANATIONS
☐ - not applicable
■ - applicable

Radiated Emissions 30 - 1000 MHz
FCC 15.231(b), IC RSS-210 A1.1

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Testing was performed in accordance with the test procedure of ANSI C63.4 2009, clause 8.3.

Test location
Wild River Lab Large Test Site (Open Area Test Site)

Test distance
3 meters

Test Equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE03204	EM-6917B	Electro-Metrics	Biconicalog Periodic	102	30-May-14
SDGE06732	ESVS-30	Rohde-Schwarz	20-1000 MHz receiver	833825/003	03-Apr-14
WRLE02670	8447D	Hewlett-Packard	Preamplifier	2443A03954	Code B 11-Jan-14
WRLE10863	N/A	TÜV SÜD America Inc	Test Companion Software Version 3.4.71	N/A	Code B

Cal Code B = Calibration verification performed internally.

Limit

Fundamental Frequency (MHz)	Field strength fundamental (μV/m)	Field strength Spurious (μV/m)	Measurement distance (m)
40.66-40.70	2250	225	3
70-130	1250	125	3
130-174	1250-3750	125-375	3
174-260	3750	375	3
260-470	3750-12500	375-1250	3
Above 470	12500	1250	3

The emission limits shown in the above table are based on measurements employing a CISPR average detector. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, *e.g.*, see §§ 15.250, 15.252, 15.255, and 15.509–15.519, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. Radiated emissions from the EUT are measured in the frequency range of 30 to 1000 MHz using a spectrum analyzer or receiver and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with a 120 kHz / 6 dB bandwidth and average/peak detection and measurements above 1000 MHz are made with a 1 MHz RBW/VBW / 6 dB bandwidth and peak detection, 1 MHz RBW/ 10 Hz VBW for average detection. Table top equipment is placed on a non-conductive support 80 cm above the ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3, 10 or 30 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT is rotated 360 degrees. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB / decade (inverse linear-distance for field strength measurements).

Test data
See next page.

Measurement summary for fundamental: FCC 15.231 – 3 meters					
FREQ	LEVEL (dBµV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBµV / m)	POL / HGT / AZ (m)(DEG)	FINAL (µV / m)
319.515 MHz	96.36 Pk	1.66 / 19.81 / 27.24 / 0.0	90.59 Limit 95.8	H / 1.09 / 277	33845 (Limit 62291)
319.515 MHz	74.89 Av	1.66 / 19.81 / 27.24 / 0.0	69.12 Limit 75.8	H / 1.09 / 277	2858 (Limit 6229)

Worst case test configuration with EUT laying flat on its base. Fundamental emission levels were lower with EUT on its side, standing upright. Same level with either activation switch.

Measurement summary for spurious: FCC 15.231 – 3 meters					
FREQ	LEVEL (dBµV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBµV / m)	POL / HGT / AZ (m)(DEG)	FINAL (µV / m)
639.019 MHz	73.53 Pk	2.46 / 19.45 / 26.9 / 0.0	68.54 Limit 75.8	H / 1.10 / 280	2673 (Limit 6229)
639.019 MHz	52.31 Av	2.46 / 19.45 / 26.9 / 0.0	47.32 Limit 55.8	H / 1.10 / 280	232 (Limit 622.9)
958.55 MHz	62.54 Pk	3.0 / 23.11 / 26.66 / 0.0	61.99 Limit 75.8	H / 1.10 / 280	1257 (Limit 6229)
958.55 MHz	41.34 Av	3.0 / 23.11 / 26.66 / 0.0	40.79 Limit 55.8	H / 1.10 / 280	110 (Limit 622.9)
239.65 MHz	47.01 Pk	1.43 / 17.19 / 27.28 / 0.0	38.35 Limit 75.8	H / 1.09 / 277	82.7 (Limit 6229)
239.65 MHz	27.05 Av	1.43 / 17.19 / 27.28 / 0.0	18.39 Limit 55.8	H / 1.09 / 277	8.31 (Limit 622.9)
424.392 MHz	44.61 Pk	1.96 / 16.67 / 27.25 / 0.0	36.0 Limit 75.8	H / 1.10 / 280	63.1 (Limit 6229)
424.392 MHz	23.75 Av	1.96 / 16.67 / 27.25 / 0.0	15.14 Limit 55.8	H / 1.10 / 280	5.71 (Limit 622.9)

Radiated Emissions 1000 – 3200 MHz
FCC 15.231(b), IC RSS-210 A1.1

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Testing was performed in accordance with the test procedure of ANSI C63.4 2009, clause 8.3.

Test location
Wild River Lab Large Test Site (Open Area Test Site)

Test distance
3 meters

Test Equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE02075	3115	EMCO	Horn antenna	9001-3275	12-Feb-14
WRLE10527	1-18 GHz	Phase One	Preamplifier	0001	Code B 08-Jan-14
WRLE02689	8566B	Hewlett-Packard	Spectrum Analyzer	2416A00321	22-Apr-14
WRLE03295	85662A	Hewlett-Packard	Analyzer Display	2152A03687	22-Apr-14
WRLE02683	85650A	Hewlett-Packard	Quasi-Peak Adapter	2811A01127	30-May-14

Cal Code B = Calibration verification performed internally.

Limit

Fundamental Frequency (MHz)	Field strength fundamental (μV/m)	Field strength Spurious (μV/m)	Measurement distance (m)
40.66-40.70	2250	225	3
70-130	1250	125	3
130-174	1250-3750	125-375	3
174-260	3750	375	3
260-470	3750-12500	375-1250	3
Above 470	12500	1250	3

The emission limits shown in the above table are based on measurements employing a CISPR average detector. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, *e.g.*, see §§ 15.250, 15.252, 15.255, and 15.509–15.519, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. Radiated emissions from the EUT are measured in the frequency range of 30 to 1000 MHz using a spectrum analyzer or receiver and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with a 120 kHz / 6 dB bandwidth and average/peak detection. Spectrum analyzer measurements above 1000 MHz are made with a 1 MHz RBW/VBW / 6 dB bandwidth and peak detection, 1 MHz RBW/ 10 Hz VBW for average detection. Table top equipment is placed on a non-conductive support 80 cm above the ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3, 10 or 30 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT is rotated 360 degrees. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB / decade (inverse linear-distance for field strength measurements).

Test data
See next page.

Measurement summary for spurious: FCC 15.231 – 3 meters

FREQ	LEVEL (dBµV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBµV / m)	POL / HGT / AZ (m)(DEG)	FINAL (µV / m)
2.876 GHz	69.7 Pk	5.38 / 29.25 / 43.81 / 0.0	60.52 Limit 75.8	H / 1.00 / 270	1062 (Limit 6229)
2.876 GHz	55.8 Av	5.38 / 29.25 / 43.81 / 0.0	46.62 Limit 55.8	H / 1.00 / 270	214 (Limit 622.9)
2.237 GHz	63.0 Pk	4.33 / 27.48 / 43.06 / 0.0	51.75 Limit 75.8	H / 1.00 / 270	387 (Limit 6229)
2.237 GHz	51.14 Av	4.33 / 27.48 / 43.06 / 0.0	39.89 Limit 55.8	H / 1.00 / 270	98.7 (Limit 622.9)
3.195 GHz	58.3 Pk	5.78 / 30.59 / 43.58 / 0.0	51.09 Limit 75.8	V / 3.00 / 180	359 (Limit 6229)
3.195 GHz	46.79 Av	5.78 / 30.59 / 43.58 / 0.0	39.58 Limit 55.8	V / 3.00 / 180	95.3 (Limit 622.9)
2.556 GHz	62.3 Pk	4.79 / 28.85 / 43.45 / 0.0	52.49 Limit 75.8	H / 1.00 / 270	421 (Limit 6229)
2.556 GHz	48.55 Av	4.79 / 28.85 / 43.45 / 0.0	38.74 Limit 55.8	H / 1.00 / 270	86.5 (Limit 622.9)
1.598 GHz	59.3 Pk	3.7 / 25.86 / 42.04 / 0.0	46.81 Limit 75.8	V / 1.36 / 169	219 (Limit 6229)
1.598 GHz	47.95 Av	3.7 / 25.86 / 42.04 / 0.0	35.46 Limit 55.8	V / 1.36 / 169	59.3 (Limit 622.9)
1.917 GHz	54.6 Pk	3.99 / 27.41 / 41.94 / 0.0	44.07 Limit 75.8	V / 3.00 / 270	160 (Limit 6229)
1.917 GHz	44.26 Av	3.99 / 27.41 / 41.94 / 0.0	33.73 Limit 55.8	V / 3.00 / 270	48.6 (Limit 622.9)
2.716 GHz	53.7 Pk	5.09 / 28.93 / 43.63 / 0.0	44.09 Limit 75.8	V / 3.00 / 270	160 (Limit 6229)
2.716 GHz	43.12 Av	5.09 / 28.93 / 43.63 / 0.0	33.51 Limit 55.8	V / 3.00 / 270	47.4 (Limit 622.9)
1.278 GHz	55.4 Pk	3.42 / 25.5 / 41.15 / 0.0	43.17 Limit 75.8	H / 1.00 / 180	144 (Limit 6229)
1.278 GHz	44.24 Av	3.42 / 25.5 / 41.15 / 0.0	32.01 Limit 55.8	H / 1.00 / 180	39.9 (Limit 622.9)

Occupied bandwidth
FCC 15.231(c), IC RSS-210 A1.1.3

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Testing was performed in accordance with the test procedure of ANSI C63.4 2009 clause 13.7

Test location
■- Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

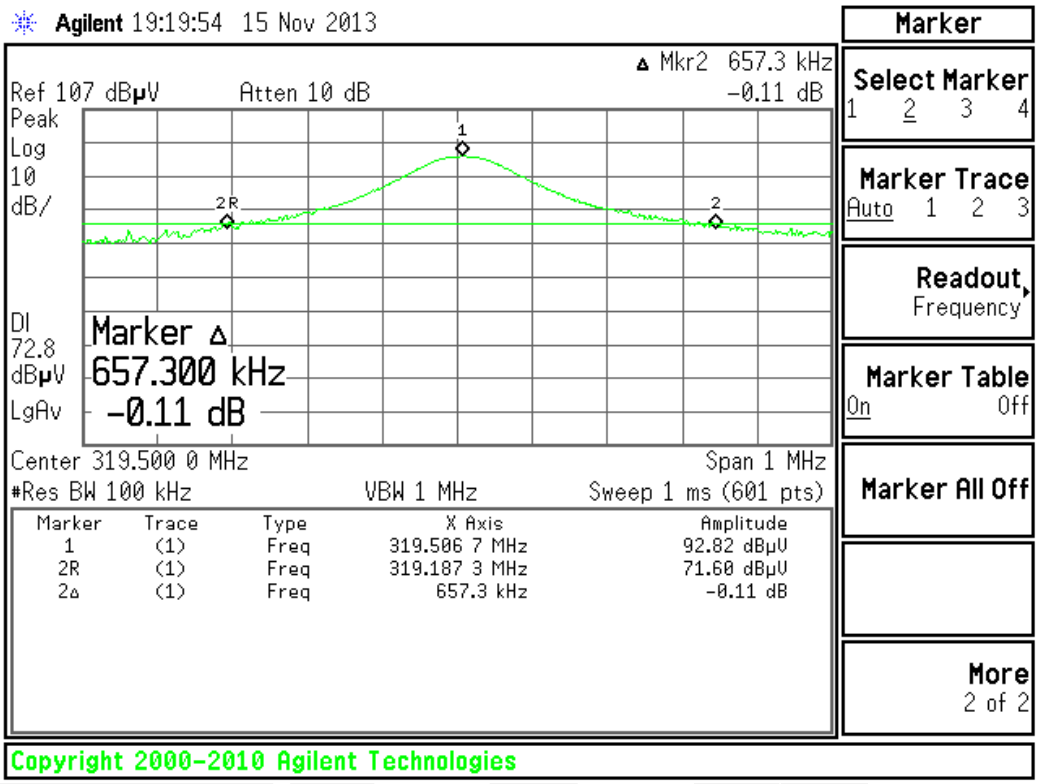
TUV ID	Model	Manufacturer	Description	Serial	Cal Due
WRLE02075	3115	EMCO	Horn antenna	9001-3275	12-Feb-14
WRLE10527	1-18 GHz	Phase One	Preamplifier	0001	Code B 08-Jan-14
NBLE03367	E4440A	Agilent	Spectrum Analyzer	MY42510439	20-May-14

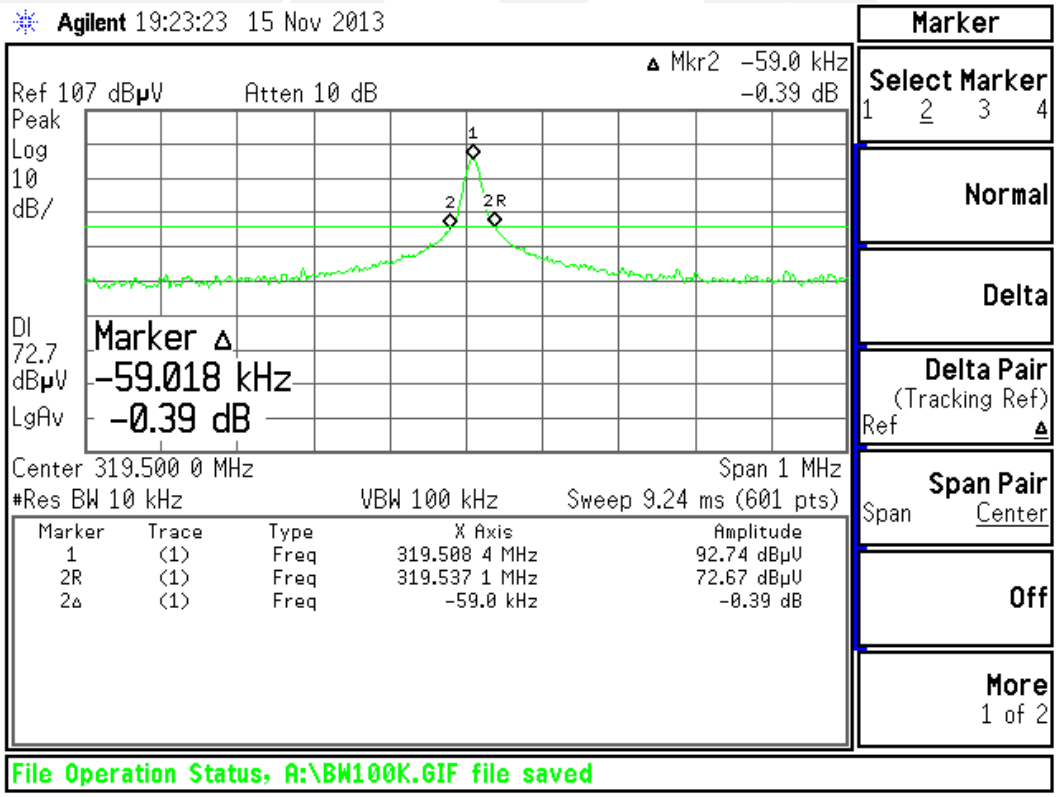
Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

Test limit
The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

319.5 MHz x 0.25% = 798.75 kHz

Test data
See following pages
20 dB occupied bandwidth = 59 kHz





20 dB occupied bandwidth = 59 kHz

Periodic operation
FCC 15.231(a), IC RSS-210 A1.1.1

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Manufacturer declared operation mode.

Test location
☐- Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

TUV ID	Model	Manufacturer	Description	Serial	Cal Due

Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

Test limit

(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

“Whenever the transmitter is activated automatically it will transmit 4 packets of 18mS in length spaced by 100 mS. Transmission cease after 362mS.”

(3) Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

“The supervisory periodic transmissions are the four automatic transmissions noted above. They occur once per hour, for a total hourly transmission time of 62mS.”

(4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition

“Our transmitter is limited to reporting devices opening and closing. Other than the initial status change condition report there are no repeat transmissions other than the hourly supervisory transmissions.”

(5) Transmission of set-up information for security systems may exceed the transmission duration limits in paragraphs (a)(1) and (a)(2) of this section, provided such transmissions are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such set-up information may include data.

“Set up information cannot exceed 8 18mS packets, spaced by 100mS. Transmissions cease after 844mS.”

Equipment Under Test (EUT) Test Operation Mode:

The device under test was operated under the following conditions during immunity testing :

☐ - Standby

☐ - Test program (H - Pattern)

☐ - Test program (color bar)

☐ - Test program (customer specific)

☐ - Practice operation

■ - Normal operating mode

Configuration of the device under test:

■ - See Appendix A and test setup photos

☐ - See Product Information Form(s) in Appendix B

DEVIATIONS FROM STANDARD:
None.

GENERAL REMARKS:
None

Modifications required to pass:
■ None
☐ As indicated on the data sheet(s)

Test Specification Deviations: Additions to or Exclusions from:
■ None
☐ As indicated in the Test Plan

SUMMARY:
The requirements according to the technical regulations are
■ - met and the device under test does fulfill the general approval requirements.
☐ - **not** met and the device under test does **not** fulfill the general approval requirements..

EUT Received Date: 11 November 2013
Condition of EUT: Normal
Testing Start Date: 11 November 2013
Testing End Date: 15 November 2013

TÜV SÜD AMERICA INC

Tested by:
Joel T Schneider
Senior EMC Engineer

Approved by:
Greg Jakubowski
Senior EMC Technician

Appendix A

Constructional Data Form

Form

EMC Test Plan and Constructional Data Form

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE. IF TESTING RESULTS IN MODIFICATIONS TO THE EQUIPMENT, PLEASE SUBMIT A REVISED TP/CDF INDICATING THOSE MODIFICATIONS.
NOTE: This information will be input into your test report as shown below. Press the F1 key at any time to get HELP for the current field selected.

Company:	Cinch Systems Inc		
Address:	12075 43 ST NE		
	Suite 300		
	St Michael, MN 55376		
Contact:	Mark Cawley	Position:	Engineer
Phone:	763-497-1059	Fax:	763-497-0898
E-mail Address:	mark.cawley@cinchsystems.com		

General Equipment Description -- ***NOTE: This information will be input into your test report as shown below.***

EUT Description	Standard Door Window Sensor, Standard DWS-Magnasphere-319 Mhz
EUT Name	Standard Door Window Sensor, Standard DWS-Magnasphere-319 Mhz
Model No.:	RF-SWDS, RF-SWDS-MAG Serial No.: 123456
Product Options:	Reed or custom activation switch
Configurations to be tested:	Reed version Magnasphere switch version

Equipment Modification (*If applicable, indicate modifications since EUT was last tested. If modifications are made during this testing, submit revised TP/CDF after testing is complete.)*

Modifications since last test:	N/A
Modifications made during test:	Trimmer cap C10 will be adjusted

Test Objective(s): ***Please indicate the tests to be performed, entering the applicable standard(s) where noted.***

☐	EMC Directive 2004/108/EC (EMC) Std:	☒	FCC:	Class	☐ A	☒ B	Part	15	
		☐	VCCI:	Class	☐ A	☐ B			
☐	Machinery Directive 89/392/EEC (EMC) Std:	☐	BSMI:	Class	☐ A	☐ B	(Separate Report)		
		☒	Canada:	Class	☐ A	☒ B			
☐	Medical Device Directive 93/42/EEC (EMC) Std:	☐	Australia:	Class	☐ A	☐ B			
		☐	Other:						
☐	Vehicle Directive - 2004/104/EC (EMC)	☐	Ag Directive *2009/64/EC (EMC)						
	☐ Other Vehicle Std:								
☐	FDA Reviewers Guidance for Premarket Notification Submissions (EMC)								

Third Party Certification (contact TÜV for quote), if applicable (*Signature on last page required).

☐ Attestation of Compliance (AoC)*	☐ EMC Certification (used with Octagon Mark)*
☐ Statement of Compliance (SoC, previously CoC)* - All aspects of the essential requirements were assessed	
Protection Class (Req'd for AoC, SoC, EMC Cert. N/A for vehicles) ☐ Class I ☐ Class II ☐ Class III (Press **F1** when field is selected to show additional information on Protection Class.)	
☒ FCC / TCB Certification	☐ Taiwan Certification
☐ Industry Canada / FCB Certification	☐ Korean Certification
☐ e-Mark Certification	

Form

EMC Test Plan and Constructional Data Form

Attendance

Test will be: ☒ Attended by the customer ☐ Unattended by the customer

Failure - *Complete this section if testing will not be attended by the customer.*

If a failure occurs, TÜV SÜD America should:

☒ Call contact listed above, if not available then stop testing. (After hrs phone): 651-269-4981
☐ Continue testing to complete test series.
☐ Continue testing to define corrective action.
☐ Stop testing.

EUT Specifications and Requirements

Length: 3.19" Width: 1.04" Height: 0.95" Weight: 2oz.

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 3V (If battery powered, make sure battery life is sufficient to complete testing.)

# of Phases: DC

Current (Amps/phase(max)): 1mA Current (Amps/phase(nominal)): 1uA

Other

Other Special Requirements

Need all testing/certs. required to obtain FCC ID and be ready to sell in US and Canada.

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)
Residential preferrable, but commercial as a fall-back

EUT Power Cable

☐ Permanent OR ☐ Removable Length (in meters):
☐ Shielded OR ☐ Unshielded
☒ Not Applicable

Form

EMC Test Plan and Constructional Data Form

EUT Interface Ports and Cables			During Test		Qty	Shielding								
Type	Analog	Digital	Active	Passive		Yes	No	Type	Termination	Connector Type	Port Termination	Length tested (in meters)	Removable	Permanent
EXAMPLE: *RS232*	☐	☒	☒	☐	*2*	☒	☐	*Foil over braid*	*Coaxial*	*Metallized 9-pin D-Sub*	*Characteristic Impedance*	*6*	☒	☐
Zones	☐	☒	☒	☐	2	☐	☒	na	resistor	na	na	1	☒	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
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	☐	☐	☐	☐		☐	☐						☐	☐

Form

EMC Test Plan and Constructional Data Form

EUT Software.

Revision Level: 1

Description: Production release candidate

Equipment Under Test (EUT) Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. Sends continuous packets- carrier with modulation

2. Normal standby with 1 packet transmitted per hour

3. na

Equipment Under Test (EUT) System Components -- List and describe all components which are part of the EUT. For FCC & Taiwan testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc)

Description	Model #	Serial #	FCC ID #
Sensor	RF-SDWS	123456	na

Form

EMC Test Plan and Constructional Data Form

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc) This information is required for FCC & Taiwan testing.

Description	*Model #*	*Serial #*	*FCC ID #*
Magnet	M1	na	na

Oscillator Frequencies

Manufacturer	*Frequency*	*Derived Frequency*	*Component # / Location*	*Description of Use*
SJK	9.98438 Mhz	319.508 Mhz	Y1	x32 to derive transmit freq.

Power Supply

Manufacturer	*Model #*	*Serial #*	*Type*
na			☐ Switched-mode: (Frequency) _____ ☐ Linear ☐ Other: _____
			☐ Switched-mode: (Frequency) _____ ☐ Linear ☐ Other: _____

Power Line Filters

Manufacturer	*Model #*	*Location in EUT*
na		

Form

EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)				
Description	***Manufacturer***	***Part # or Value***	***Qty***	***Component # / Location***
na				

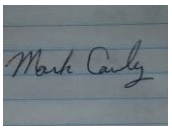
EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

na

PLEASE ENTER NAMES BELOW (INSERT ELECTRONIC SIGNATURE IF POSSIBLE)

Authorization (Signature Required if a Third Party Certification is checked on pg 1)

Invalid signature

X 

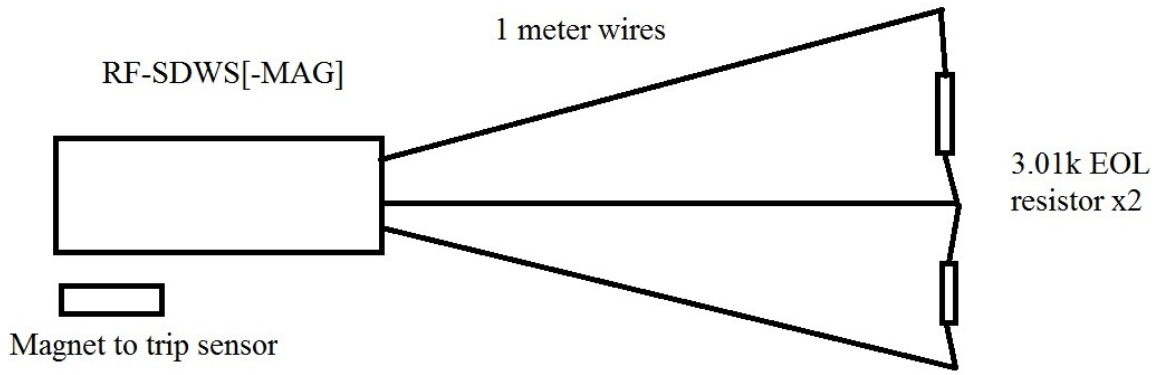
Mark Cawley
Engineer

Customer authorization to perform tests according to this test plan. — Date

Test Plan/CDF Prepared By (please print) — Date

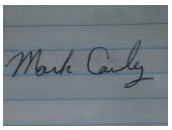
Form
EMC Block Diagram Form

System Configuration Block Diagram -- Provide a line drawing identifying the EUT, simulators, support equipment, I/O cables, power cables, and any other pertinent components to be used during testing. Use a dashed line to separate the equipment in the testing field versus equipment outside testing field.



Authorization Signatures

Invalid signature

X 

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