

**FCC - TEST REPORT**

Report Number : **60.790.19.004.01R01** Date of Issue : March 21, 2019

Model : 32316667-001 Rev.B, 32316667-002 Rev.B

Product Type : Door PUSH

Applicant : Ademco Inc

Address : 1985 Douglas Drive N, Golden Valley, MN 55422, USA

Production Facility : Ansen Electronics Company

Address : Chen Tung Industrial Zone, Ning Tau Administr. District,  
QiaoTauZhen, Dongguan, Guangdong. P.R.C

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including Appendices : 18

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## 2 Description of Equipment Under Test

### Description of the Equipment Under Test

|                             |                                        |
|-----------------------------|----------------------------------------|
| Product:                    | Door PUSH                              |
| Model no.:                  | 32316667-001 Rev.B, 32316667-002 Rev.B |
| FCC ID:                     | HS9-RPWL400A                           |
| Rating:                     | 3 VDC (1x CR 2032)                     |
| Frequency:                  | 916.8MHz                               |
| Antenna gain:               | 0 dBi                                  |
| Number of operated channel: | 1                                      |
| Modulation Type:            | GFSK                                   |

### 3 Summary of Test Standards

| Test Standards                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCC Part 15 Subpart C 10-1-18 Edition<br>Federal Communications Commission, PART 15 — Radio Frequency Devices,<br>Subpart C — Unintentional Radiators |

All the tests were performed using the procedures from ANSI C63.4(2014) and ANSI C63.10 (2013).

## 4 Details about the Test Laboratory

### Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch  
Building 12&13 Zhiheng Wisdomland Business Park,  
Nantou Checkpoint Road 2,  
Shenzhen 518052, P.R.China  
FCC Registration Number: 514049

| Emission Tests                                                       |           |
|----------------------------------------------------------------------|-----------|
| Test Item                                                            | Test Site |
| <b>FCC Part 15 Subpart C</b>                                         |           |
| FCC Title 47 Part 15.205, 15.209 & 15.249 Radiated Spurious Emission | Site1     |
| FCC Title 47 Part 15.207 Conduct Emission                            | NIL       |
| FCC Title 47 Part 15.215 20dB Bandwidth                              | Site 1    |
| FCC Title 47 Part 15.203 Antenna Requirements                        | Site 1    |

## 4.1 Test Equipment Site List

### Radiated emission Test – Site 1

| DESCRIPTION                         | MANUFACTURER    | MODEL NO. | SERIAL NO.      | CAL. DUE DATE |
|-------------------------------------|-----------------|-----------|-----------------|---------------|
| EMI Test Receiver                   | Rohde & Schwarz | ESR 26    | 101269          | 2019-7-6      |
| Trilog Super Broadband Test Antenna | Schwarzbeck     | VULB 9163 | 707             | 2019-6-28     |
| Horn Antenna                        | Rohde & Schwarz | HF907     | 102294          | 2019-6-28     |
| Pre-amplifier                       | Rohde & Schwarz | SCU 18    | 102230          | 2019-7-6      |
| Signal Generator                    | Rohde & Schwarz | SMY01     | 839369/005      | 2019-7-6      |
| Attenuator                          | Agilent         | 8491A     | MY39264334      | 2019-7-6      |
| 3m Semi-anechoic chamber            | TDK             | 9X6X6     | ----            | 2020-7-7      |
| Test software                       | Rohde & Schwarz | EMC32     | Version 9.15.00 | N/A           |

### 20dB Bandwidth, Transmission Time – Site 1

| DESCRIPTION     | MANUFACTURER    | MODEL NO. | SERIAL NO. | CAL. DUE DATE |
|-----------------|-----------------|-----------|------------|---------------|
| Signal Analyzer | Rohde & Schwarz | FSV40     | 101030     | 2019-7-6      |

## 4.2 Measurement System Uncertainty

### Measurement System Uncertainty Emissions

| System Measurement Uncertainty                                      |                                          |
|---------------------------------------------------------------------|------------------------------------------|
| Items                                                               | Extended Uncertainty                     |
| Uncertainty for Radiated Emission in 3m chamber<br>9kHz-30MHz       | 4.46dB                                   |
| Uncertainty for Radiated Emission in 3m chamber<br>30MHz-1000MHz    | Horizontal: 4.91dB;<br>Vertical: 4.89dB; |
| Uncertainty for Radiated Emission in 3m chamber<br>1000MHz-25000MHz | Horizontal: 4.80dB;<br>Vertical: 4.79dB; |
| Uncertainty for Conducted RF test                                   | 2.13dB                                   |
| Uncertainty for Frequency RF test                                   | $0.6 \times 10^{-7}$                     |

## 5 Summary of Test Results

| Emission Tests                                              |       |                                     |                          |                                     |
|-------------------------------------------------------------|-------|-------------------------------------|--------------------------|-------------------------------------|
| FCC Part 15 Subpart C                                       |       |                                     |                          |                                     |
| Test Condition                                              | Pages | Test Result                         |                          |                                     |
|                                                             |       | Pass                                | Fail                     | N/A                                 |
| FCC Title 47 Part 15.205, 15.209 & 15.249 Radiated Emission | 12-13 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| FCC Title 47 Part 15.207 Conduct Emission (1)               | NIL   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| FCC Title 47 Part 15.215 20dB Bandwidth                     | 14    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| FCC Title 47 Part 15.203 Antenna Requirement                | 15    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

Remark:

1) Conducted Emission testing is not applicable for battery operating device.

## 6 General Remarks

### Remarks

Client informs that the **32316667-002 Rev.B** have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction with **Door PUSH, 32316667-001 Rev.B**. The difference lies only on the outlook/color of the different models. (Client's conformation letter shown at appendix A)

All tests were performed on model **32316667-001 Rev.B**.

This submittal(s) (test report) is intended for **FCC ID: HS9-RPWL400A**, complies with Section 15.205, 15.207, 15.209, 15.249 of the FCC Part 15, Subpart C rules.

The TX frequency is 916.8MHz.

### SUMMARY:

- All tests according to the regulations cited on page 8 were

■ - Performed

□ - **Not** Performed

- The Equipment Under Test

■ - **Fulfills** the general approval requirements.

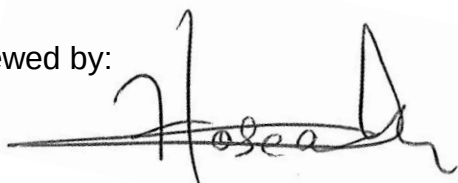
□ - **Does not** fulfill the general approval requirements.

Sample Received Date: February 13, 2019

Testing Start Date: February 18, 2019

Testing End Date: February 27, 2019

Reviewed by:



Hosea CHAN  
EMC Project Engineer

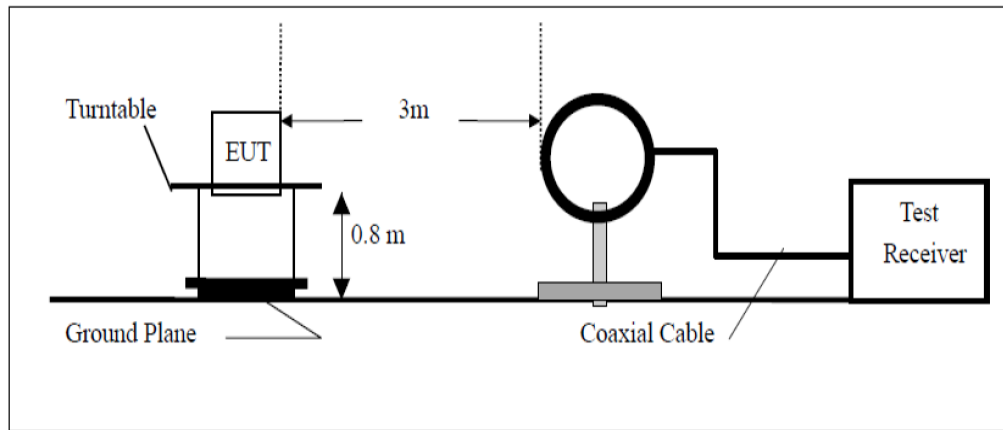
Prepared by:



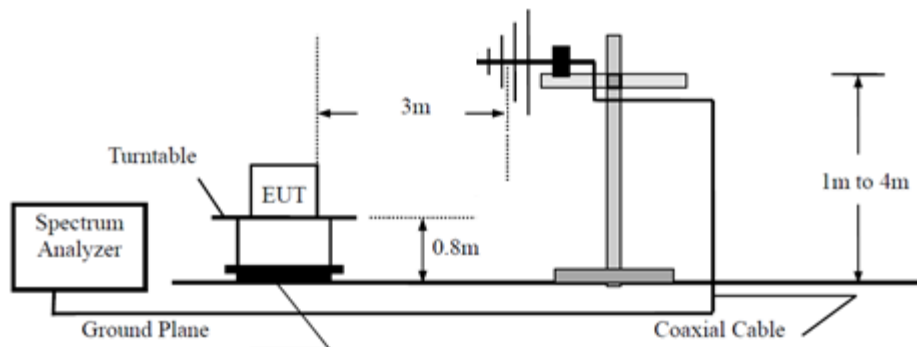
Eric LI  
EMC Senior Project Engineer

## 7 Test Setups

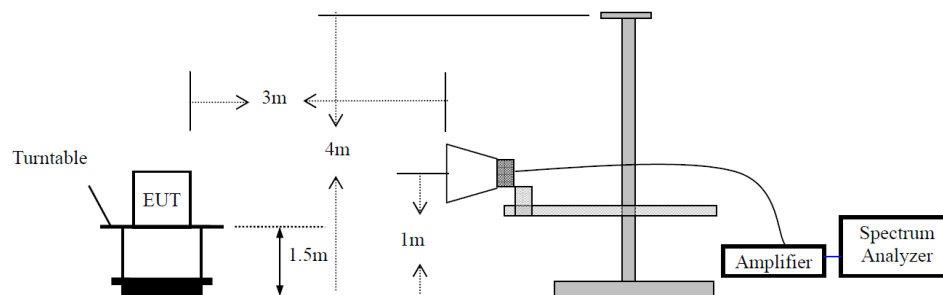
### 7.1 Radiated test setups 9kHz-30MHz



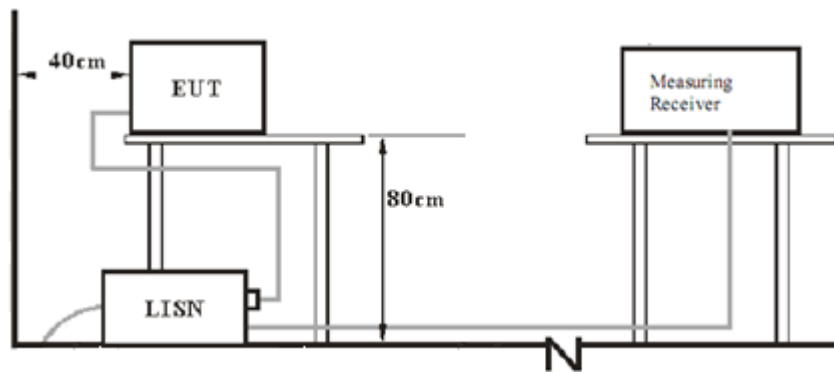
### 7.2 Radiated test setups Below 1GHz



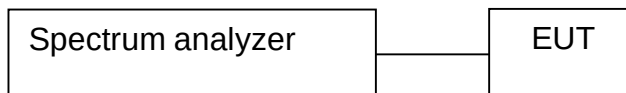
### 7.3 Radiated test setups Above 1GHz



## 7.4 AC Power Line Conducted Emission test setups



## 7.5 Conducted RF test setups



## 8 Emission Test Results

### 8.1 Spurious Radiated Emission

EUT: 32316667-001 Rev.B  
 Op Condition: Operated, TX Mode (916.8MHz)  
 Test Specification: FCC15.205, 15.209 & 15.249(a) Antenna: Horizontal  
 Comment: 3 VDC  
 Remark: 9kHz to 10GHz

| Test Result                         |            |
|-------------------------------------|------------|
| <input checked="" type="checkbox"/> | Passed     |
| <input type="checkbox"/>            | Not Passed |

| Frequency<br>MHz | Result<br>dBμV/m | Limit<br>dBμV/m | Margin<br>dB | Detector<br>PK/QP/AV | Corr.<br>(dB) |
|------------------|------------------|-----------------|--------------|----------------------|---------------|
| 174.96           | 17.57            | 43.50           | -25.93       | Peak                 | -29.6         |
| 436.597          | 22.43            | 46.00           | -23.57       | Peak                 | -23.3         |
| 916.81           | 87.97            | 114.00          | -26.03       | Peak                 | -15.5         |
| 916.81           | 62.15            | 94.00           | -31.85       | Average              | -15.5         |
| 1833.60          | 47.81            | 74.00           | -26.19       | Peak                 | -9.8          |
| 1833.60          | 33.18            | 54.00           | -20.82       | Average              | -9.8          |
| 2750.40          | 33.56            | 74.00           | -40.44       | Peak                 | -5.3          |
| 2750.40          | 26.78            | 54.00           | -27.22       | Average              | -5.3          |
| 3667.20          | 40.56            | 74.00           | -33.44       | Peak                 | -0.8          |
| 3667.20          | 31.55            | 54.00           | -22.45       | Average              | -0.8          |
| 7531.18          | 37.68            | 74.00           | -36.32       | Peak                 | 6.1           |
| 7531.18          | 26.39            | 54.00           | -27.61       | Average              | 6.1           |

## Spurious Radiated Emission

EUT: 32316667-001 Rev.B  
 Op Condition: Operated, TX Mode (916.8MHz)  
 Test Specification: FCC15.205, 15.209 & 15.249(a) Antenna: Vertical  
 Comment: 3 VDC  
 Remark: 9kHz to 10GHz

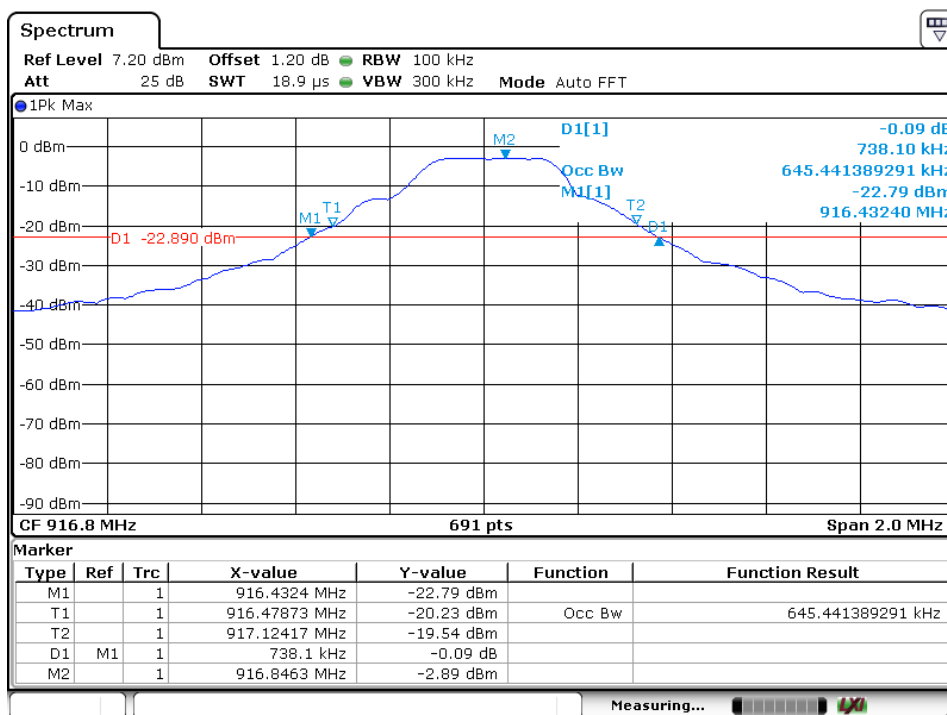
| Test Result                         |            |
|-------------------------------------|------------|
| <input checked="" type="checkbox"/> | Passed     |
| <input type="checkbox"/>            | Not Passed |

| Frequency<br>MHz | Result<br>dBμV/m | Limit<br>dBμV/m | Margin<br>dB | Detector<br>PK/QP/AV | Corr.<br>(dB) |
|------------------|------------------|-----------------|--------------|----------------------|---------------|
| 59.21            | 17.04            | 40.00           | -22.96       | Peak                 | -27.0         |
| 435.51           | 19.50            | 46.00           | -26.50       | Peak                 | -23.3         |
| 916.81           | 81.50            | 114.00          | -32.50       | Peak                 | -15.5         |
| 916.81           | 58.34            | 94.00           | -35.66       | Average              | -15.5         |
| 1833.60          | 42.35            | 74.00           | -31.65       | Peak                 | -9.8          |
| 1833.60          | 30.57            | 54.00           | -23.43       | Average              | -9.8          |
| 2750.40          | 34.15            | 74.00           | -39.85       | Peak                 | -5.3          |
| 2750.40          | 26.88            | 54.00           | -27.12       | Average              | -5.3          |
| 3667.20          | 47.82            | 74.00           | -26.18       | Peak                 | -0.8          |
| 3667.20          | 34.19            | 54.00           | -19.81       | Average              | -0.8          |
| 9518.06          | 41.95            | 74.00           | -32.05       | Peak                 | 9.1           |
| 9518.06          | 33.65            | 54.00           | -20.35       | Average              | 9.1           |

## 8.2 20dB Bandwidth

EUT: 32316667-001 Rev.B  
 Op Condition: Operated, TX Mode (916.8MHz)  
 Test Specification: FCC15.15 20dB Bandwidth  
 Comment: 3 VDC

Test Result

☒ Passed☐ Not Passed

| Bandwidth      | Measured Value |
|----------------|----------------|
| 20dB bandwidth | 738.1 kHz      |
| 99% OCB        | 645.4 kHz      |

### 8.3 Antenna Requirements

EUT: 32316667-001 Rev.B  
Op Condition: Operated, TX Mode (916.8MHz)  
Test Specification: FCC15.203  
Comment: 3 VDC

Test Result

☒ Passed

☐ Not Passed

#### Limit

For intentional device, according to FCC Title 47 Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

#### Antenna Connector Construction

The antenna used in this product is spring antenna, which is embedded permanently on PCB and no consideration of replacement. The maximum antenna gain is 0dBi.

## 9 Appendix A - General Product Information

### Radiofrequency radiation exposure evaluation

According to KDB 447498 D01v06 section 4.3.1, For frequencies between 100 MHz to 6GHz and test separation distances  $\leq 50$  mm, the Numeric threshold is determined as:

Step a)

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR

>> The fundamental frequency of the EUT is 916.8MHz,  
the test separation distance is  $\leq 50$ mm.  
(Manufacturer specified the separation distance is: 5mm)

Step a

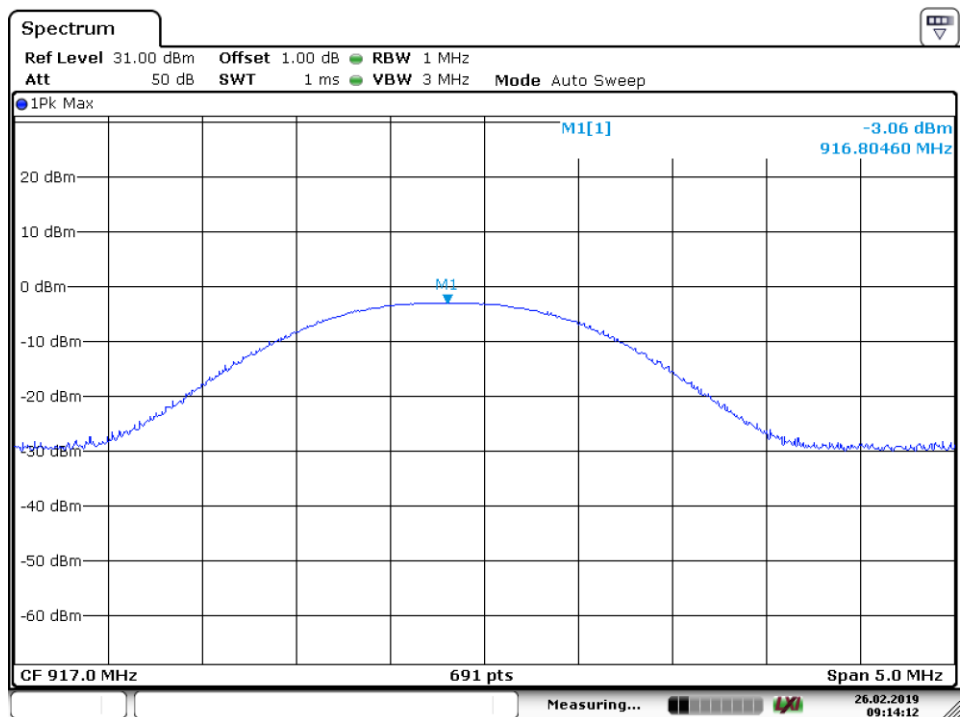
>> Numeric threshold,  $\text{mW} / 5 \text{ mm} \cdot \sqrt{0.9168\text{GHz}} \leq 3.0$   
Numeric threshold  $\leq 15.666\text{mW}$

>> The power of EUT measured is:  $-3.06\text{dBm} = 0.494\text{mW}$   
Which is smaller than the Numeric threshold.  
Therefore, the device is exempt from stand-alone SAR test requirements.

**Appendix A - Conducted power**

EUT: 32316667-001 Rev.B  
Op Condition: Operated, TX Mode  
Comment: 3 VDC  
Remark: NA

|                                     |            |
|-------------------------------------|------------|
| Test Result                         |            |
| <input checked="" type="checkbox"/> | Passed     |
| <input type="checkbox"/>            | Not Passed |



Date: 26.FEB.2019 09:14:12

## Appendix A Declaration letter of model difference

### Declaration letter of model difference

1985 Douglas Drive N, MN10-132B  
Golden Valley, MN 55422 USA  
resideo.com



To: TÜV SÜD Hong Kong Limited

Attention: Edmond Fung

From: Peter Walthers

Date: October 2, 2019

Total Page (Cover Included): 1

Project No.:

Subject: Declaration letter

We: Company Name: Ademco Inc

Address: 1985 Douglas Drive N, Golden Valley, MN 55422, USA

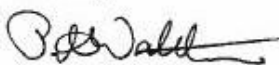
Officially notify TÜV SÜD Hong Kong Limited that the <<Model A>> has the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction, with <<PRODUCT>>, <<Model B>>. The difference lies only in the outlook/color of the different models.

<<Model A>>: 32316667-002 Rev.B

<<Model B>>: 32316667-001 Rev.B

<<Product>>: Door PUSH

Sincerely,



Peter Walthers

Sr Regulatory Compliance Engineer

Resideo Engineering Services

Office: 763-954-5256

Mobile: 630-267-7774

peter.walthers@resideo.com  
resideo.com

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