China

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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1 Table of Contents

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 Federal Communications Commission, PART 15 — Radio Frequency Devices, 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
FCC Part 15 Subpart C	
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 9kHz-30MHz	4.46dB
Uncertainty for Radiated Emission in 3m chamber 30MHz-1000MHz	Horizontal: 4.91dB; Vertical: 4.89dB;
Uncertainty for Radiated Emission in 3m chamber 1000MHz-25000MHz	Horizontal: 4.80dB; Vertical: 4.79dB;
Uncertainty for Conducted RF test	2.13dB
Uncertainty for Frequency RF test	0.6×10-7

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	☒	☐	☐
FCC Title 47 Part 15.207 Conduct Emission (1)	NIL	☐	☐	☒
FCC Title 47 Part 15.215 20dB Bandwidth	14	☒	☐	☐
FCC Title 47 Part 15.203 Antenna Requirement	15	☒	☐	☐

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

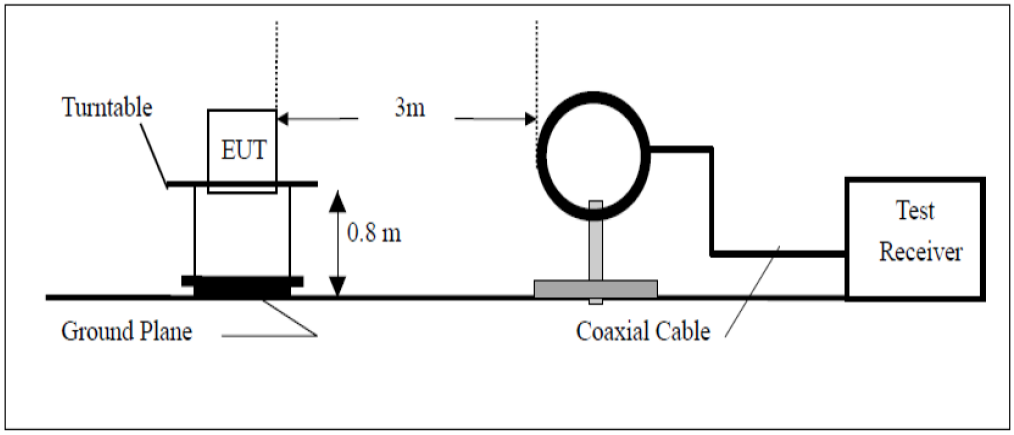
Testing End Date: February 27, 2019

Reviewed by: Hosea CHAN
EMC Project Engineer

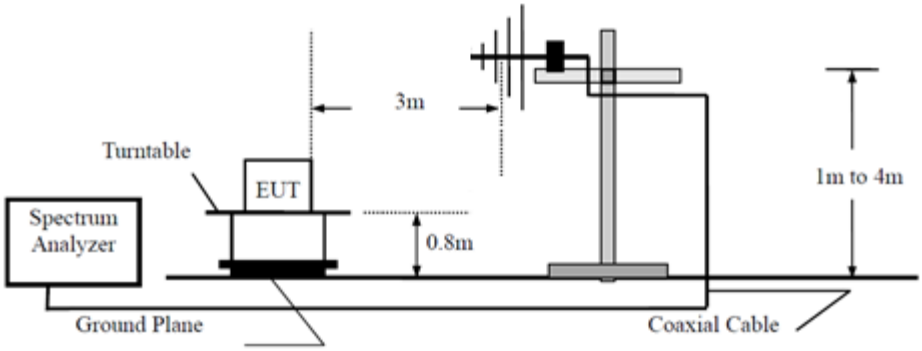
Prepared by: Eric LI
EMC Senior Project Engineer

7 Test Setups

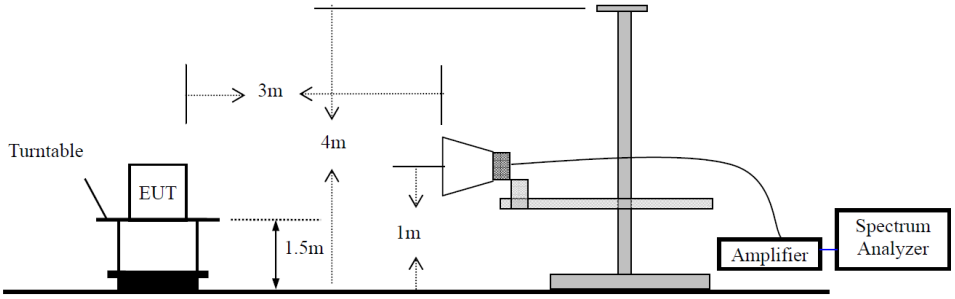
7.1 Radiated test setups 9kHz-30MHz



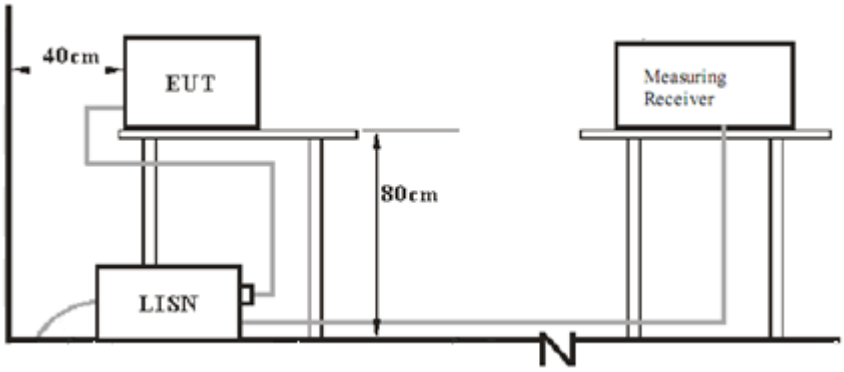
7.2 Radiated test setups Below 1GHz



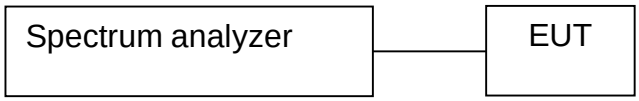
7.3 Radiated test setups Above 1GHz



7.4 AC Power Line Conducted Emission test setups



7.5 Conducted RF test setups



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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
☒ Passed
☐ Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector PK/QP/AV	Corr. (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

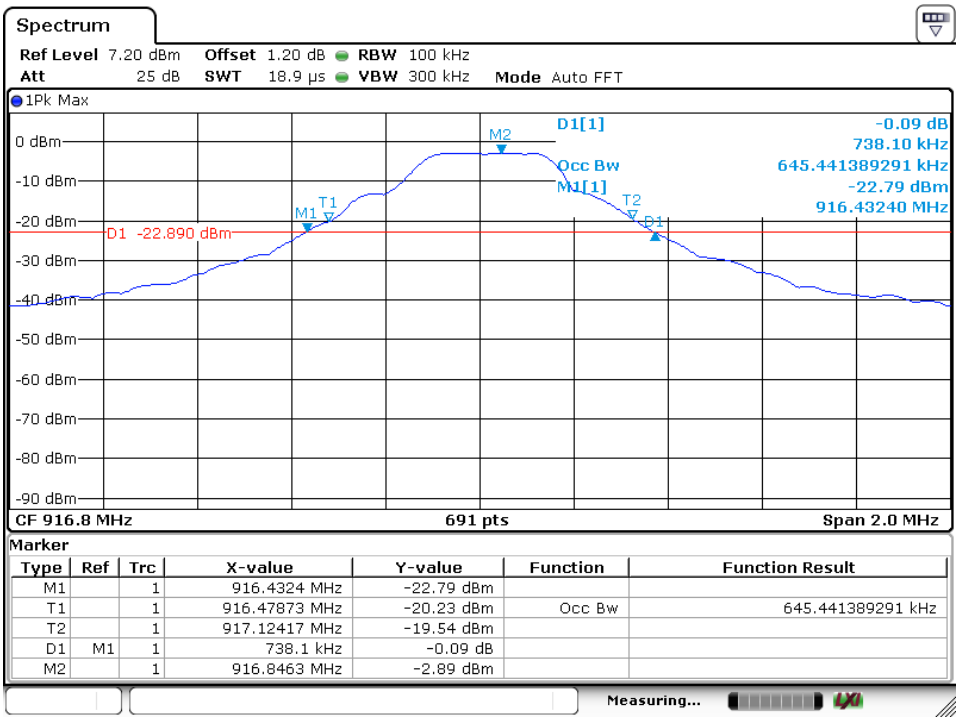
Test Result
☒ Passed
☐ Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector PK/QP/AV	Corr. (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 ≤ 50 mm, the Numeric threshold is determined as:

Step a)
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR

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

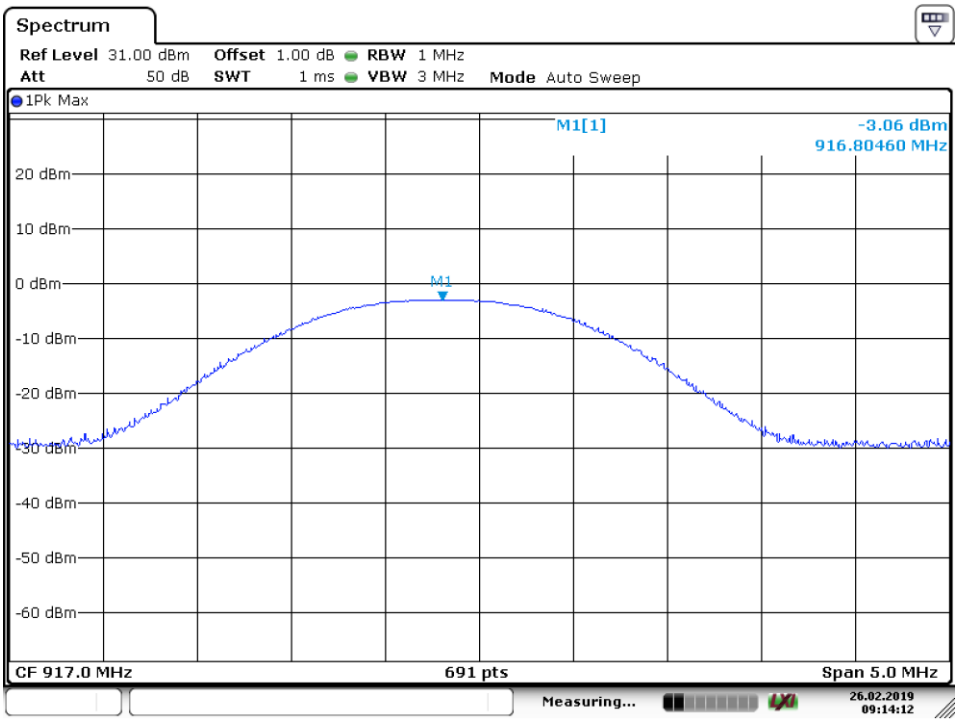
Step a
>> Numeric threshold, mW / **5 mm** * √0.9168GHz ≤ 3.0
Numeric threshold ≤ **15.666mW**

>> The power of EUT measured is: -3.06dBm = 0.494mW
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
☒ Passed
☐ Not Passed



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

China

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

resideo

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 SÜV 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
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Resideo Engineering Services
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