



## RF Exposure Evaluation Declaration

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**FCC ID:** P27SDSMK03N

**Applicant:** Sercomm Corporation

**Application Type:** Certification

**Product:** DECT ULE Smoke Alarm

**Model No.:** SSS1R0-29xxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for the marketing purpose)

**Serial No.:** SD-SMK03Nyxxxxxxxx (y should be "blank" or "-"; x could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)

**Brand Name:** ADT, SERCOMM

**FCC Classification:** Unlicensed PCS Base Station (PUB)

**Test Procedure(s):** KDB 447498 D01v06

**Test Date:** March 11 ~ 23, 2019

Reviewed By:

( Sunny Sun )

Approved By:

( Robin Wu )



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

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## Revision History

Report No.	Version	Description	Issue Date	Note
2003RSU027-U3	Rev. 01	Initial Report	04-02-2020	Valid

## General Information

<b>Applicant:</b>	Sercomm Corporation
<b>Applicant Address:</b>	8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C.
<b>Manufacturer:</b>	Sercomm Corporation
<b>Manufacturer Address:</b>	8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C.
<b>Test Site:</b>	MRT Technology (Suzhou) Co., Ltd
<b>Test Site Address:</b>	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
<b>Test Device Serial No.:</b>	N/A <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

## Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC accredited (MRT Designation No. CN1166) test facility with the site description report on file and has met all the requirements specified in ANSI C63.4-2014.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-20025, G-20034, C-20020, T-20020) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications, Radio and SAR testing.



## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name:	DECT ULE Smoke Alarm
Model No.:	SSS1R0-29XXXXX (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-", for the marketing purpose)
Serial No.:	SD-SMK03Nyxxxxxxxx (y should be "blank" or "-"; x could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)
Brand Name:	ADT, SERCOMM
Hardware:	SD_SMK03N_001
Firmware:	36.02.05.03.003
DECT Function:	
Frequency Range:	1921.536 ~ 1928.448MHz
Number of Channels:	5
Maximum Output Power:	17.58dBm
Type of Modulation:	Digital (Gaussian Frequency Shift Keying)
Antenna Gain:	2.35dBi
Antenna Type:	PCB Antenna

## 2. RF Exposure Evaluation

### 2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$r$  = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance  $r$  where the MPE limit is reached.

## 2.2. Test Result of RF Exposure Evaluation

Product	DECT ULE Smoke Alarm
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum EIRP (dBm)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
DECT	1921.536 ~ 1928.44	19.93	0.0196	1

### CONCLUSION:

Therefore, the Min Safety Distance is 20cm.

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## **Appendix A – EUT Photograph**

Refer to “2003RSU027-UE” file.