



中国认可
国际互认
检测
TESTING
CNAS L5313



RF Exposure Evaluation Declaration

Product Name : KONE Connection 020E Sensor Kit

Model No. : 020E

FCC ID : 2ALQB51420705V06

Applicant : KONE Corporation

Address : Kartanontie 1Helsinki 00330 Finland

Date of Receipt : Aug. 23, 2018

Test Date : Aug. 24, 2018~ Sep. 17, 2018

Issued Date : Nov. 15, 2018

Report No. : 1882144R-RF-US-P20V01

Report Version : V1.0

The test results relate only to the samples tested.

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

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The test report shall not be reproduced without the written approval of DEKRA Testing and Certification
(Suzhou) Co., Ltd.

Test Report Certification

Issued Date : Nov. 15, 2018

Report No. : 1882144R-RF-US-P20V01



Product Name : KONE Connection 020E Sensor Kit
Applicant : KONE Corporation
Address : Kartanontie 1Helsinki 00330 Finland
Manufacturer : Changzhou Minjie Electric Co., Ltd.
Address : No.18, Qianzheng Road, Qianhuang Town,
Changzhou
Model No. : 020E
FCC ID : 2ALQB51420705V06
EUT Voltage : AC 100-240V,50/60Hz
Test Voltage : AC 120V/60Hz
Brand Name : KONE
Applicable Standard : KDB 447498D01V06
FCC Part1.1310
Test Result : Complied
Performed Location : DEKRA Testing and Certification (Suzhou) Co., Ltd.
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,
215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: CN1199

Documented By :



(Adm. Specialist: Kitty Li)

Reviewed By :



(Senior Project Manager: Frank He)

Approved By :



(Engineering Supervisor: Jack Zhang)

1. RF Exposure Evaluation

1.1. 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 ²)	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

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is the limit of MPE, 1 mW/cm². 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.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18 and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	KONE Connection 020E Sensor Kit
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Antenna Information:

Model No.		N/A								
Antenna manufacturer		N/A								
Antenna Delivery		<input checked="" type="checkbox"/>	1*TX+1*RX		<input type="checkbox"/>	2*TX+2*RX		<input type="checkbox"/>	3*TX+3*RX	
Antenna technology		<input checked="" type="checkbox"/>	SISO							
		<input type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic					
				<input type="checkbox"/>	CDD					
				<input type="checkbox"/>	Sectorized					
				<input type="checkbox"/>	Beam-forming					
Antenna Type		<input type="checkbox"/>	External	<input type="checkbox"/>	Dipole					
				<input type="checkbox"/>	Sectorized					
		<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>	PIFA					
				<input type="checkbox"/>	PCB					
				<input type="checkbox"/>	Ceramic Chip Antenna					
				<input checked="" type="checkbox"/>	Dipole Antenna					
		Antenna Technology		Ant Gain (dBi)						
<input checked="" type="checkbox"/>	SISO	0								

- Output Power into Antenna & RF Exposure Evaluation Distance
- Standalone modes

Test Mode	Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Directional Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Power Density Limit at R = 20 cm (mW/cm ²)
BLE	2400 ~ 2483.5	10.89	0	0.0024	1.0

Note: The simultaneous transmission power density is 0.0024mW/cm² for KONE Connection 020E Sensor Kit without any other radio equipment.

_____ The End _____