

Report No.: SUCR2401000003TL05

Rev.: 01

Page: 1 of 8

# TEST REPORT

**Application No.:** SUCR2401000003TL  
**Applicant:** KonnectONE, Inc  
**Address of Applicant:** 40 Lake Bellevue Drive, Suite 340, Bellevue, Washington 98005, U.S.A  
**Manufacturer:** KonnectONE, Inc  
**Address of Manufacturer:** 40 Lake Bellevue Drive, Suite 340, Bellevue, Washington 98005, U.S.A  
**EUT Description:** CPE  
**Model No.:** K868CPE  
**Trade Mark:** Moxee  
**FCC ID:** 2APQU-K868CPE  
**Standards:** 47 CFR Part 2.1091  
 FCC KDB 447498 D01 v06  
**Date of Receipt:** 2023/01/04  
**Date of Issue:** 2024/01/29

<b>Test Result:</b>	<b>PASS*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Well Wei  
 Wireless Laboratory Manager



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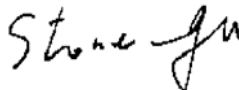
Report No.: SUCR2401000003TL05

Rev.: 01

Page: 2 of 8

# 1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2024/01/29		Original

<b>Prepared By</b>		 <hr/> (Nick Hu) / Test Engineer
<b>Checked By</b>		 <hr/> (Stone Gu) / Reviewer



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## Contents

1	Version .....	2
2	General Information .....	4
2.1	Client Information .....	4
2.2	Test Facility .....	4
2.3	General Description of EUT .....	5
3	RF Exposure Evaluation .....	6
3.1	RF Exposure Compliance Requirement .....	6
3.1.1	Limits .....	6
3.1.2	Test Procedure .....	7
3.1.3	EUT RF Exposure Evaluation .....	7
3.1.4	Exposure calculations for multiple sources .....	8



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## 2 General Information

### 2.1 Client Information

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Manufacturer:	KonnectONE, Inc
Address of Manufacturer:	40 Lake Bellevue Drive, Suite 340, Bellevue, Washington 98005, U.S.A

### 2.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

- **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number: 717327



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### 2.3 General Description of EUT

EUT Description:	CPE			
Model No.:	K868CPE			
Trade Mark:	Moxee			
Hardware Version:	K868CPE_MB_V1.00			
Software Version:	K868CPE_EQ100_C277_V0201			
Power Supply:	12V			
Antenna Type:	External Antenna			
Antenna Gain:	WCDMA Band II:	2dBi(Ant1)	WCDMA Band IV: 0.28dBi(Ant1)	
	WCDMA Band V:	0.36dBi(Ant1)		
	LTE Band 2:	2dBi(Ant1)	LTE Band 4: 0.28dBi(Ant1)	
	LTE Band 5:	0.36dBi(Ant1)	LTE Band 12: 0.35dBi(Ant1)	
	LTE Band 13:	0.5dBi(Ant1)	LTE Band 17: 0.35dBi(Ant1)	
	LTE Band 25:	2dBi(Ant1)	LTE Band 26: 0.36dBi(Ant1)	
	LTE Band 41:	2.86dBi(Ant1)	LTE Band 66: 0.28dBi(Ant1)	
	LTE Band 71:	0.27dBi(Ant1)		
	WIFI 2.4G:	1dBi(Ant0); 1dBi(Ant1)		
	5G WIFI(U-NII-1):	1.5dBi(Ant0); 1.49dBi(Ant1);		
	5G WIFI(U-NII-2A):	1.5dBi(Ant0); 1.49dBi(Ant1);		
	5G WIFI(U-NII-2C):	1.5dBi(Ant0); 1.49dBi(Ant1);		
	5G WIFI(U-NII-3):	1.5dBi(Ant0); 1.49dBi(Ant1);		
	Note:	The antenna gain are derived from the gain information report provided by the manufacturer.		
	Remark:	As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.		



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### 3 RF Exposure Evaluation

#### 3.1 RF Exposure Compliance Requirement

##### 3.1.1 Limits

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz

\*=Plane-wave equivalent power density

RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Friis Formula

Friis transmission 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, 1 mW/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.



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### 3.1.2 Test Procedure

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

### 3.1.3 EUT RF Exposure Evaluation

Output Power Into Antenna & RF Exposure Evaluation Distance:

Operating Band	Frequency (MHz)	Antenna Gain (dBi)	MIMO Directional gain	Max Conducted Power (dBm)	EIRP(ERP) (dBm)	EIRP(ERP) Limit (dBm)	Power Density at R = 20 cm (mW/cm2)	Limit (mW/cm2)	conclusion
WCDMA Band II	1852.4	2	NA	25.70	27.70	33.00	0.1171	1.0000	Pass
WCDMA Band IV	1712.4	0.28	NA	25.70	25.98	33.00	0.0788	1.0000	Pass
WCDMA Band V	826.4	0.36	NA	25.70	23.91	38.45	0.0803	0.5509	Pass
LTE Band 2	1850.7	2.00	NA	25.70	27.70	33.00	0.1171	1.0000	Pass
LTE Band 4	1710.7	0.28	NA	25.70	25.98	30.00	0.0788	1.0000	Pass
LTE Band 5	824.7	0.36	NA	25.70	23.91	38.45	0.0803	0.5498	Pass
LTE Band 12	699.7	0.35	NA	25.70	23.90	34.77	0.0801	0.4665	Pass
LTE Band 13	779.5	0.50	NA	25.70	24.05	34.77	0.0829	0.5197	Pass
LTE Band 17	706.5	0.35	NA	25.70	23.90	34.77	0.0801	0.4710	Pass
LTE Band 25	1850.7	2.00	NA	25.70	27.70	33.00	0.1171	1.0000	Pass
LTE Band 26 (814-824)	814.7	0.36	NA	25.70	NA	NA	0.0803	0.5431	Pass
LTE Band 26 (824-849)	824.7	0.36	NA	25.70	23.91	38.45	0.0803	0.5498	Pass
LTE Band 41	2498.5	2.86	NA	25.70	28.56	33.00	0.1428	1.0000	Pass
LTE Band 66	1710.7	0.28	NA	25.70	25.98	30.00	0.0788	1.0000	Pass
LTE Band 71	665.5	0.27	NA	25.70	23.82	34.77	0.0787	0.4437	Pass
2.4G WiFi	2412.0	1.00	NA	18.00	19.00	30.00	0.0158	1.0000	Pass
2.4G WiFi (MIMO)	2412.0	1.00	1.00	18.00	19.00	30.00	0.0158	1.0000	Pass
5G WiFi	5180.0	1.50	N/A	16.00	17.50	30.00	0.0112	1.0000	Pass
5G WiFi (MIMO)	5180.0	1.50	1.50	16.00	17.50	30.00	0.0112	1.0000	Pass

This confirmed that the device comply with MPE limit.



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### 3.1.4 Exposure calculations for multiple sources

In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity. That is

$$\sum_{i=1}^n \frac{S_i}{MPE_i} \leq 1$$

The product also has multiple transmitters The Simultaneous Transmission Possibilities are as below:

Simultaneous Tx Combination	Configuration
1	WWAN+WLAN 2.4GHz MIMO + WLAN 5GHz MIMO

No.	Mode	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )	Result Ratio	Total Ratio	Limit	Result
1	LTE Band 71*	0.0787	0.4437	0.1774	0.2044	1.0000	Pass
	WiFi 2.4G MIMO	0.0158	1.0000	0.0158			
	WiFi 5G MIMO	0.0112	1.0000	0.0112			

\*Remark: This WWAN Band was recalculated on worst Band.

---End of Report---



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